AIR CONDITIONING & REFRIGERATION NEWS
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Story of the Week
There's Gold In Them Thar Hills
How Dry! How Grand!
How Gorgeous!
Ninth Wonder of the World
Nothing Like Them Anywhere
The Original Teddy Bears
Jackass and Methuselah
Relatives of the Pink Elephant

Story of the Week

Australian movie theater usher discovered a kangaroo on an aisle seat. It was chomping peanuts.

"Fella," he interrupted, "where did you get the goobers? Our peanut vending machine was removed weeks ago."

There's Gold In Them Thar Hills

Without quibble Australia is the most exciting nation in the world today.

Her present business boom and promising future is based upon the unbeatable combination of tremendous unexploited natural resuorces, influxing immigration of hungry European-refugee workers, and welcomed American investments of capital and know-how.

Australia is on the verge of becoming a Mighty Nation. Trouble is, the average Australian doesn't yet realize this undeniable fact; nor does the Average European or American.

What Australia needs most right now—in addition to more self-confidence — is a healthy dose of curious tourists from Britain, the U. S. A., and the European continent. The latter could see for themselves what magnificent opportunities exist "Down Under."

Also discerning tourists might help these wondrous people, who don't know their own strength yet, to unprovincialize themselves and eventually attain the stature of a World Power.

So far the Australian government hasn't particularly encouraged "tourism." It should, though, because this exciting *different* continent has so much to offer a tourist and his welcome money.

Right here and now, "Dope" begins a campaign to publicize Australia as a prime place for tourists.

After two circumnavigations —21 years part—and innumerable peregrinations in the meantime, this columnist *should* qualify as a judge of scenic and

(Continued on Page 8, Col. 1)

Experts Help

Dealers Act Fast, Counteract Story That Air Conditioner Gassed Family

LAKE CHARLES, La.—Fast, cooperative activity by retailers handling air conditioners here brought quick correction to a misinterpretation of an incident here, in which a user of a room air conditioner charged "near asphyxiation from leaking refrigerant gas," which might have seriously hampered air conditioning sales in the area.

The problem arose when a news story was published in a weekday issue of the Lake Charles *American Press*, describing how Henry H. Young, a Lake Charles Air Force base civil service supervisor, said he had been awakened about 6 a.m., and smelled a heavy gas odor. Young said he couldn't awaken his wife and three other members of his family.

He shut off the air condition-

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Air Conditioning Tops All In Homeowners' Interest

NEW YORK CITY — More consumer interest in air conditioning than in any other home improvement was uncovered by a contest conducted by the Home Improvement Council.

Of some 80,000 homeowners who entered the "How's Your Home?" contest last spring, 69.73% expressed an interest in or a need for air conditioning.

The contest revealed substantial consumer interest in the products and services of every branch of the home improvement-modernization industry, HIC officials said.

Contestants were asked about a great variety of home improvements covering appliances; heating, cooling, and ventilating; plumbing; lighting, power, and communications; furniture and furnishings; grounds and outbuildings; storage space; walls, ceilings, and work surfaces; floors; windows, doors, screens; exterior; roofs, additions; and such miscellaneous items as insurance and financing.

But their interest in air conditioning topped all others.

In other categories, 54% indicated interest in a refrigerator and/or freezer, 50.87% wanted improved ventilation; 49.53% desired adequate control of con-

(Concluded on Page 4, Col. 3)

They Don't Hate Nobody (We Hope)

In the news story "Industry Attracting Few Top Engineering Graduates" published on page 1 of the July 21 issue, the ASH&AE was spelled out as the "American Society of *Hating* & Air-Conditioning Engineers."

The editors hurry to assure one and all that this was not a deliberate typographical error, which might be construed as an attempt to influence thinking in the current debate on the proposed merger of the ASH&AE and ASRE. All the ASH&AE members we know are fine fellows who don't hate nobody (we hope).

First reader to call the error to our attention, Stanley Lero of Akron, Ohio, sent in a clipping pointing it out, and merely commenting: "I hope not!"

Union Summons Bay Contractors To Trial

SAN FRANCISCO — United Association local 38 has again summoned to trial 12 "independents." All are members of Bay Area Refrigeration Contractors, Inc.

But they are not members of local 38.

All have stopped paying dues and by this means severed contion with local 38.

Gus Lindell of Lindell Refrigeration Co. stopped paying dues one year ago. Others of the "accused" have not paid dues since the first of this year.

The remainder ceased paying dues recently when all 12 received letters making charges and summoning them to trial on July 23.

At last reports, none of those summoned planned to appear for trial.

In reply to the recent charges an officer of Bay Area made a phone call to Cyrus Dempsey, financial secretary of local 38, stating the letter sent to the union on Feb. 17 stated Bay Area's position, and, as far as Bay Area and its members are concerned, still stands.

Secretary Dempsey is the union officer who made and signed the recent charges, yet

(Concluded on Page 24, Col. 1)

Note Marked Rise In Cooler Sales

NEW YORK CITY — A "marked rise in sales of air conditioners" was noted by Dun & Bradstreet Inc. in its most recent spot survey of retail sales.

Volume of retail trade for the period covered varied from "unchanged to 4% higher" than a year ago, and much of the increase in consumer durables was attributed to air conditioners, since other appliances were lagging.

Cold Air Curtain 'Fall Out' Foils Super's Unusual Dairy Display Idea

DENVER—After less than a month of operation, the King Soopers new 42,500-sq. ft. store has been forced to give up on a highly unusual type of refrigerated display fixture which had been featured in the store's dairy department.

Much advertised as one of the top examples of forward-thinking engineering in the big supermarket, this was a 40-ft. dairy product display case, seven tiers of shelving high, which depended upon a "falling curtain" of refrigerated air instead of the usual glassed-in front, to maintain 35° to 38° temperatures.

Under the theory of the design, customers could reach through the "curtain" of cold air for eggs, milk, butter, oleomargarine, and other dairy products without having to bother with opening and shutting the usual heavy glass doors.

This fixture was planned by King Soopers' engineering de-

(Concluded on Page 18, Col. 3)

ANALYSIS OF STATISTICS taken from Detroit commercial refrigeration installation permits appears on page 16 of this issue.

It'll Be Hotter Where It's Needed

WASHINGTON, D. C.— "Above normal" temperatures for the Middle Atlantic states (including all the major metropolitan centers in the East), most of the South and the Southwest, and the Pacific Coast region, is forecast by the U. S. Weather Bureau through Aug. 15.

The upper Great Lakes region and the northern Plains states may have temperatures slightly below normal, while the Central Plains and Border states' areas will have "near normal" August temperatures, the forecast states.

Sections of the Southwest and parts of the Pacific Coast region are likely to get "much above normal" temperatures, according to the forecast.

World Trade Issue Next Week

First attempt in many years to present a comprehensive picture of the progress in sales of air conditioning and refrigeration products in countries outside the U.S. will be contained in the next (Aug. 4) "World Trade Issue" of the NEWS.

NEWS subscribers in nearly every civilized part of the World will find this issue a summation of the findings of Editor George F. Taubeneck, who returned recently from an Around-the-World trip, visiting major export markets.

Many of these readers in foreign lands have prepared contributions for this issue, stating their opinion on the present condition of the business in their particular country, and discussing some of their special problems.

With U.S. manufacturers active in the export field also contributing some viewpoints, the World Trade Issue will present a well-rounded picture of the market conditions abroad for readers outside the U.S., and for all others who have an interest in export operations.

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Heavy Use of Air Conditioning Blamed for Fire

KEARNEY, N. J. — Heavy use of air conditioning equipment was blamed for a transformer fire here July 3.

Public service engineers investigating the blaze at their generating station on Hackensack St. here claimed that abnormal overload on the transformer, caused by higher than usual use of air conditioning and refrigeration units, generated extreme heat that cracked a casing containing an oil coolant.

Firemen called to the scene had to disconnect 41 other transformers before they could put out the blaze safely. Burning oil had spread around the transformers creating danger of electrocution.

Fire Chief William Wandras said his department has found 25% more air conditioners in use this year than last year.

Canadian Contractor Group Changes Name

TORONTO, Ont., Can. — Allegedly to stem the diversion of contracts for combination heating and air conditioning installations from its members, the National Association of Master Plumbers & Heating Contractors of Canada has changed its name to Canadian Plumbing & Mechanical Contractors Association. Officials indicated that to general contractors a mechanical contractor is one able to take on over-all mechanical installation jobs, excepting electrical work.

Gordon L. Dobbin of Peterborough was elected president.

Dayton Rubber Forms Molded Products Div.

DAYTON — Formation of a Molded Products Div. of The Dayton Rubber Co. was announced recently by Clowes M. Christie, president. The fabrication plant for the division is located at Three Rivers, Mich.

The division will market a wide range of natural and synthetic rubber industrial machine parts ranging from small bushings to gigantic rollers for steel mills. Future plans call for the development of new elastomers for special usage as well as continued industrial applications for precision parts, and research and development in the vibration control field.

L. C. Strobeck, vice president of mechanical goods sales, announced appointment of J. J. Haher as product sales manager.

PHCIB Drive Boosts Membership from 33 to over 800 In 6-Month Period

LOS ANGELES — Since the end of January when it launched its active membership drive, the Plumbing-Heating-Cooling Information Bureau has grown from 33 members to more than 800, reports Norman Wicks, PHCIB's executive director.

He outlined the organization's progress to more than 6,000 persons attending the National Association of Plumbing Contractors convention here.

"This enthusiastic, even phenomenal, growth since the first of the year," Wicks said, "is our best indication that you in this industry see the PHCIB as the means to more business now and your proper share of the growth market we know is ahead."

The NAPC last year contributed $25,000 to help get the PHCIB started.

Of the more than 800 present members, Wicks continued, 323 are contractors, 310 are wholesalers, and 106 are manufacturers. Manufacturers' representatives, associations, the trade press, labor, and other groups complete the roster.

Wicks summed up the ultimate objective of the PHCIB as "arousing consumer awareness of and developing a greater demand for the products and services of this industry and then turning this increased awareness and demand into more business for the plumbing-heating-cooling contractor through more effective selling effort."

Wicks outlined an immediate goal of the PHCIB—formation of a sales training program with the guidance of sales training experts of the industry formed into a PHCIB Sales Training Council.

This council will determine the content of the program and the best way of making it immediately effective.

In describing forthcoming work by the PHCIB staff, Wicks said the first step would be to work with those areas and groups that undertook modernization activity last May.

"Sales effort is not a one-shot, start and stop affair," Wicks pointed out. "Start and stop doesn't allow achievement of fullest results. We must encourage local groups to tie in with existing manufacturer programs, tailor-made for them.

"Right now," Wicks emphasized, "they should be in the middle of cooling campaigns and be planning to tie in with model homes currently being built in anticipation of National Home Week in September."

Wicks described the activity of a group of plumbing and heating contractors in Tarrytown, N. Y., where a well-planned offer of a free home inspection drew 27% community-wide response.

An intensive telephone solicitation, direct-mail literature from the PHCIB Modernization Kit and the PHCIB-prepared check list were the bases for the promotion that caused 400 to request the inspection.

Wicks reminded the contractors that PHCIB is financed on the basis of $1 per employe per year—a basis, he added, that divides the costs of the program equitably and makes it possible for everyone in the industry to become a part of this movement.

Apprentice Courses To Remain Free In Frisco

SAN FRANCISCO — A proposal to charge fees for apprenticeship and trade course students attending classes under the Adult Education program has been voted down by the Board of Education three to two.

Now free to all the program serves 61,000 adult students every year and costs $450,000 anually, it is reported.

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When you sell quality air conditioning, you sell comfort, health, cleanliness, *happiness* for users...and PROFITS for yourself.
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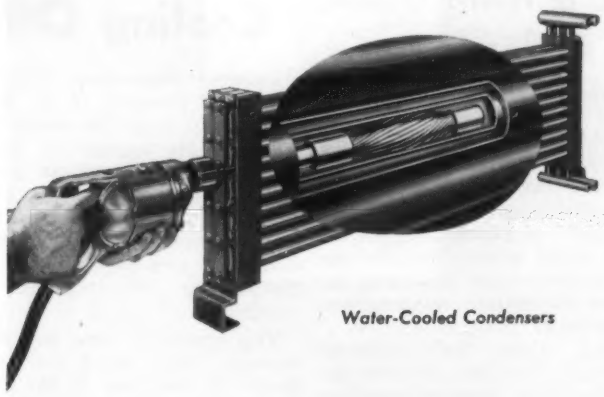

Water-Cooled Condensers

Cooling Towers

Air-Cooled Condensers

Cooling Towers

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"Here's a line of 'high side' products that cost less to buy, less to operate ...less to maintain"

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H&M Water-Cooled Condensers perform efficiently even in hottest weather or in crowded equipment rooms. Double-tube design and counterflow of refrigerant and water assure maximum heat transfer. Removable headers permit easy water tube cleaning with a simple accessory tool and an ordinary electric drill. Scale and sludge are removed without harmful chemical cleaners. Available in ⅓ through 25 tons, all H&M condensers are U/L approved for Refrigerants 12 or 22.

HM ***COOLING TOWERS WITH THE EXCLUSIVE 20-YEAR GUARANTEE***

Ideally suited for all refrigeration, air conditioning and industrial process water cooling applications. Induced air flow and efficient water distribution cool the circulating water thoroughly, even on very humid days. Pressure creosoting of the wood fill makes possible the industry's only 20-Year Guarantee on the wetted deck surface against failure due to rotting or attack by fungus. The tower casings are specially coated with plastic *after assembly* for complete protection against corrosion. Propeller Fan models are available in 2 through 125 tons; Take-Aparts, in 5 through 100 tons; Blower Fan models, in 5 through 25 tons.

HM ***AIR-COOLED CONDENSERS WITH TURBU-FLO, WIDE-SPACED FINS***

Larger coils and exclusive Turbu-Flo fins provide dependable performance for air-cooled systems. The embossed, streamline fins create better air wash, thus reducing air film resistance and increasing heat transfer by up to 15%. Wide fin spacing keeps coils from clogging with dirt or other air borne particles. Sturdy, lock tight construction won't vibrate or rattle. Design embodies slow speed, deep pitch fans and draw-through draft for quiet, efficient operation. H&M Air-Cooled Condensers are available for Refrigerants 12 or 22, in 3 through 50 tons. Multiple circuiting to suit the individual job is provided.

Ask for all Halstead & Mitchell products at your nearby distributor's or write for descriptive literature. Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.

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AIR-COOLED CONDENSERS • FINNED-SURFACE COILS

'Sears Doesn't Control Whirlpool'—Hurley

WASHINGTON, D. C.—Sears Roebuck & Co. does not own or control Whirlpool Corp. and never has, John A. Hurley, vice president of Whirlpool, affirmed to appliance dealers here recently.

Speaking at the 1958 Institute of Management at American university sponsored by the National Appliance & Radio-TV Dealers Association, Hurley attempted to set at rest growing complaints among some dealers about Sears' competition and about Whirlpool's relationship with Sears.

Whirlpool is owned by more than 12,000 stockholders, he said. Radio Corp. of America is the largest single stockholder with 18.92% of the stock. Sears, with certain of its affiliates, owns 16.77% of the stock.

"At the time our present corporation was formed in 1955, RCA and Sears entered into an agreement that if either should at any time own more than 20% of our stock, neither would be entitled to vote more than 20%.

"Any stock held by either in excess of 20% is to be placed in a voting trust and voted by Whirlpool management."

Hurley commented that some competitors' "poison pens" raised the question of who runs Whirlpool when R. E. Brooker became president of the company recently. Brooker was formerly a vice president of Sears in charge of factory interests.

"When our board of directors and management decided that our company required the attention of two top executives instead of one, Elisha Gray was made chairman and Brooker was made president," he explained.

"He is a man of outstanding ability in the fields of engineering, manufacturing, and merchandising. He will be good for us and he will be good for you."

Hurley, whose responsibility is to develop the sales of the RCA Whirlpool line of appliances, declared that Sears is "just as much a competition of mine as they are of yours.

He reported that last year Whirlpool billed $224 million worth of Kenmore and Coldspot appliances to Sears and $131 million RCA Whirlpool appliances to independent distributors.

> A refrigerator shelf that employs all known means of cold transfer—radiation, conduction, and convection—is coming out of the RCA Whirlpool laboratories "in the months to come," Hurley said.

Thus, he said, "within eight short years after beginning our distributor dealer program, we are already doing 59% as much business with our RCA Whirlpool line as we are doing with our Sears line."

Can the independent dealer handling RCA Whirlpool compete successfully with Sears?

"Of course he can," Hurley averred. "You can compete successfully with Sears with the RCA Whirlpool or any other first class line, through the flexibility that is inherent in independent ownership and operation—a flexibility that, in my opinion, will never be approached by the chain store."

Does Sears buy for less? Hurley hesitated to answer directly but said:

"The Sears and RCA Whirlpool lines are not the same, so a direct comparison between the pricing of the two lines cannot be made.

"We supply many and varied services to our RCA Whirlpool customers which we do not supply to Sears. They supply their own. Quite naturally, we must charge for these services.

"They include such items as national and local advertising, display materials, literature, sales training, field warehousing, credit facilities, and various others which are factors in the pricing formulas of most all makers of national brands."

Hurley opined that dual manufacturing and distribution is here to stay "because it makes economic sense for the manufacturer to exploit fully his engineering, manufacturing, and distribution facilities.

Kramer Files Suit Against Wholesaler

TRENTON, N. J. — Kramer Trenton Co., manufacturer of refrigeration and air conditioning products, has filed suit in U. S. District Court here against Melchior, Armstrong, Dessau Co., Inc., a wholesaler of refrigeration parts and supplies, alleging infringement of two patents held by Kramer Trenton.

The patents on which infringements are charged are No. 2,564,310, granted Aug. 14, 1951, covering means for controlling the head pressure in refrigerating systems; and No. 2,761,287, granted on Sept. 4, 1956, covering means for controlling the highside pressure in refrigerating systems. This has been designated by Kramer as the "Winterstat" system.

The suit alleges the infringement occurred through the installation in a supermarket of products purchased from Larkin Coils, Inc.

HIC Findings--

(Concluded from Page 1, Col. 5)

densation and humidity; 45.83% would modernize heating and heat control, and 17.2% wanted to replace radiators.

HIC officials said that two independent experts arrived at the conclusion that these 80,000 families alone represent a potential of at least $50 million worth of remodeling, in merchandise alone.

HIC currently has a second contest under way. It's theme is "Better Your Home." Already 250,000 entry blanks have been distributed to HIC member dealers.

FTC & NAM Oppose Bill To Require Varied Discounts

WASHINGTON, D. C.—Both the Federal Trade Commission and the National Association of Manufacturers have come out against proposed legislation that would require manufacturers to vary their discounts between wholesalers, retailers, and consumers.

They made their opinions known to the anti-trust subcommittee of the Senate committee on the judiciary which is considering bills to amend Section 2 (a) of the Robinson-Patman Act.

Amendments provide for mandatory and varying price discounts to be given by sellers to their customers according to the customer's classification as wholesalers, retailers, or consumers.

John W. Gwynne, FTC chairman, objected that the bills did not spell out which class was to get the price advantage or how much difference there should be between classes of purchasers. As presently written, manufacturers could comply with the bills by charging retailers less than wholesalers or by making the differential between classes so small as to be virtually meaningless.

NAM charged that the bills would disrupt established pricing and marketing policies throughout the nation's distribution system and would result in higher prices to consumers. The association found them harmful to both manufacturers and distributors and contrary to the intent of the Robinson-Patman Act.

NLRB May Expand Jurisdiction To Smaller Firms

WASHINGTON, D. C. — The National Labor Relations Board is considering changing its standards on Sept. 1 to take jurisdiction over cases affecting smaller concerns in interstate commerce.

New standards, if adopted, would narrow the no-man's land where neither the NLRB nor state agencies will accept jurisdiction of labor disputes involving Taft-Hartley Act violations.

Under the new proposed standards, NLRB would accept jurisdiction over retail concerns having a $500,000 volume of business or, in the case of franchised dealers, $250,000.

For non-retail concerns, lower limit would be $50,000 direct or indirect outflow or inflow of goods shipped or services furnished outside the state.

Cooling Off

County Supervisor Weldon Sheets of Newark, N. J., said the wrong thing. He stalled a resolution to engage an engineering firm to draw up plans and specifications for air conditioning the courthouse and hall of records. He argued that some employes were against air conditioning for reasons of health.

The employes soon set him straight. Only 22 of the hundreds of employes in the two buildings opposed air conditioning, according to a poll of employes made immediately thereafter.

In fact department heads insisted that air conditioning would eliminate discrimination. On hot days, some employes are sent home while those in certain offices must continue to work because the office, by law, must remain open.

* * *

Some people are just lucky. Like Howard Westerberg of the Omaha, Neb. Metropolitan Utilities District. When his name was drawn out of a hat, he won the opportunity to buy, at a reduced price, a Bryant gas air conditioner—next year.

* * *

For safety reasons, Wheat Farmer Doyle Neiman, who works 2,080 acres near here, added air conditioned cabs to his two Diesel tractors. His two sons, 9 and 11 years old, will operate them.

Not only will the boys ride in 70° F. comfort, free of dust and insects, but they will have a carpet on the floor, a radio to keep up with the news, and two-way radio to keep in touch with father in case of trouble. What, no television?

* * *

Next to 90° F. at 9 p.m., there's nothing like a beautiful girl to stimulate interest in air conditioning, believes O. A. Sutton Corp. The company has five beautiful starlets making publicity appearances in key cities to boost "Vornado" sales.

After giving demonstration rides in air conditioned autos, appearing at dealerships, and calling on newspaper editors and TV shows, les girls kicked up consumer interest 20% in New Orleans, Houston, and El Paso, H. W. Hibshman, vice president of sales and distribution, avowed.

* * *

Yes, Eskimos are buying refrigerators and freezers in Alaska, reports Henry Bowen, Rural Electrification Administration representative there. They use them to prevent the food from getting too cold as well as too warm, he explained.

Edwards Airvec Supplies 10 Tons of Air Conditioning To New Florida Supermarket*

EDWARDS Airvec Condenser Utilizes Convection Principle. Eliminates Noise, Motors, Maintenance, Structural Problems.

Heat rising from the horizontal condenser creates a chimney-like draft that continues to draw fresh air through the unit. Manufactured in 2, 3, 5, and 7½ ton basic sections, which then can be assembled in multi-sections for unlimited capacities up to hundreds of tons.

This principle eliminates: Noise, Motors, Wiring, Maintenance, Operating Problems. WRITE Airvec Dept.

Edwards Engineering Corp. Manufacturers Agents Inquiries Invited.

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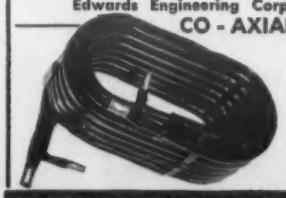

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Suppose *you* bought a mechanical product from a dealer and found you needed service. You would expect a friendly response to your call . . . prompt arrival of the serviceman . . . and efficient, expert attention to the job.

Next time you planned to buy a related article, you probably would remember the dealer's dependability and service in backing up the products he sells. In just this way many appliance dealers are gaining *additional* sales each year.

In order to help you "put yourself in your customer's SHOES" –and DO SOMETHING ABOUT IT–Frigidaire offers dealers and authorized service organizations regular tuition-free training on all Frigidaire products at General Motors Training Centers; continuing product information; incentive plans; District help; and complete District parts inventory . . . everything to make service profitable. All you have to do is make sure it is *used*.

Does it work? One dealer (name on request) says, "Service brings in 75% of my new product sales." He *really* put Frigidaire Golden Rule Service to work!

GM GOLDEN ANNIVERSARY

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FRIGIDAIRE DEALER OPERATING GUIDE...

Compact, in easily understood down-to-earth language, this invaluable guide combines the experience of nearly 10,000 servicing dealers with up-to-date factory know-how . . . shows you how to establish and maintain a successful service dealership. And it is only 1/12th of the Frigidaire Golden Rule Service Program! Learn more about this proven service approach to sales, write Service Department, Frigidaire Division, General Motors Corporation, Dayton 1, Ohio.

Residential Air Conditioning Contractor Finds Built-In Kitchens To Be Ideal Volume Booster

By George M. Hanning

LANSING, Mich. — For the residential heating and air conditioning contractor with a profitable pattern of operation, the road to custom built-in kitchen business is wide open, asserts Ernest C. Fox, president of Hager-Fox Heating & Refrigeration Co. here.

Built-in kitchen business, where the contractor builds in everything from cabinets and exhaust fans to refrigerator and range, fits more naturally into the operation of the heating and air conditioning contractor than into that of any other type of business — such as appliance dealers and lumber companies— attempting to install kitchens.

Fills In Between Cooling, Heating Season

Not only is the heating and air conditioning contractor already set up to handle it, but it is good business for him. The kitchen season is strongest during the early months of the year, just after heating sales have dropped off and the air conditioning season has not yet begun. It rounds out his sales picture perfectly.

"Our kitchen business this year has shown a 30% increase so far," Fox testified, "while heating and air conditioning have fallen off." Thus it helps to level out annual profit figures.

How does kitchen business dovetail with heating and cooling?

It dovetails, Fox explains, because you are dealing with the same customers—home builders and homeowners.

Installation requires the same trades you are already using—electrician, plumber, pipefitter, sheet metal man, and carpenter. Installation costs are similar and design problems are much the same.

Record keeping is so similar that you can use the same business forms for all three types of business.

The equipment involved is mechanical and has the same performance characteristics as heating and air conditioning. Even service problems are about the same—largely electrical.

Air Conditioning Volume Also Boosted

Not only will custom kitchens increase the contractor's volume in themselves, but they will also increase his air conditioning and heating business.

Builders, Fox has found, prefer to give the entire mechanical contract to a single contractor. If the contractor can install the kitchen equipment as well as the heating and air conditioning, he stands a better chance of landing the contract.

If he happens to handle a nationally-known brand — Fox handles the Westinghouse line of air conditioning, heating, and built-in kitchen equipment—the builder feels he will have an easier job selling his homes. Another sales point for the contractor.

With the homeowner in the modernization market, built-in kitchen appliances have great appeal, Fox observes. The kitchen has enough glamour to bring women into your place of business, he notes, even if your shop is off a retail shopping thoroughfare—as so many heating and air conditioning contractors are.

Not only does the contractor's list of heating and air conditioning customers make good prospects for custom kitchens, but new customers attracted by kitchens are also prime prospects for air conditioning or more modern heating plants.

With kitchens as well as anything else, Fox smiled, the first 200 sales are the toughest.

Fox did not wait for kitchen glamour to lure women into his place of business—located on a largely residential boulevard on the southeast side of town. He made it worth while to come.

He offered his showroom to the 67 local women's clubs as a site for their meetings. He also offered to pay 50 cents a head into the club treasury for every woman attending.

For the evening meeting, his kitchen department manager puts on a buffet luncheon and a program. The program consists of a brief, humor-spiced talk on modern kitchens plus a movie on air conditioning.

(Fox is planning to substitute a shorter film on air conditioning and combine it with one on air cleaning. The latter has a larger potential here than air conditioning, he believes.)

The kitchen department manager has an easy way that the ladies like, Fox noted. He social-

BUILDERS SWARM over Hager-Fox custom kitchen exhibit as Lansing, Mich. heating and air conditioning dealer gives them an additional reason for awarding him complete mechanical contract on their homes.

Tecumseh
engineering VISION
37 MILLION COMPRESSORS IN THE FIELD
PANCAKES
TINY T
Both the popular Pancake line and the new T-line models are used interchangeably in home freezers and refrigerators. Also commercially in water coolers, dispensers, vending machines, and room air conditioners.
INTERNAL MOUNT SINGLES
The lower horsepower range of Tecumseh singles are used both in home freezers and commercial refrigeration.
INTERNAL MOUNT SINGLES
The higher horsepower range of single cylinder compressors are used in room air conditioners.

OF HERMETIC COMPRESSORS . . .

The reason for these many compressor models is obvious. We feel that to serve the industry, we must provide the equipment they want, when they want it. The best way to do this is to provide several choices in the same horsepower size . . . then our customers can more exactly balance their particular systems with a standard, high production compressor. Over 2000 different Bills of Material incorporating minor variations in these basic models are available. These models incorporate all of the design and operational features required to do a better job for you. These include: various physical sizes – numerous tube and valve arrangements – high and low torque – voltage variations – refrigerant 12 and 22 – air, water, and air/water cooled adaptabilities. Whatever your need, you'll find that Tecumseh has the *right* compressor to fill it.

The variety of applications we serve has dictated a continual effort to keep ahead of the industry's requirements. This effort has resulted in a constantly improved product, generally reduced prices, and increased production efficiency. Proof of Tecumseh's ability to keep pace with industry developments is the fact that there has been a Tecumseh compressor ahead of every industry demand, in any quantity required. Call in Tecumseh today and make your selection from the most complete, up-to-date compressor line on the market.

izes with them, making no overt attempt to sell. The guests are merely exposed to the Hager-Fox friendly atmosphere.

So far, some 10,000 women—3,000 each year—from all over the Lansing area have attended these meetings.

"They get the word about Hager-Fox kitchens around the area better than any other medium," Fox commented.

When Fox first offered his store as a meeting place, he figured on only an occasional group. Actually response came slowly. But after a few groups had held meetings there and gained a favorable impression, word spread. Requests for meetings came in a torrent.

Booking them at the rate of once a week, Fox soon had filled his calendar for the entire year. More requests came. Fox had a hard time explaining why the late comer's club had to wait until next year for its meeting. He broke the log jam and preserved good public relations by scheduling two meetings a week.

With builders, Fox used a more direct approach. He invited them into the showroom to look over his lines. He explained how he could help them sell their houses with his equipment.

Biggest Volume Comes Through Builders

Fox notes that most of his volume in air conditioning and heating and a growing volume of kitchen business is done through builders — and profitably.

He is aware that builders have a reputation for squeezing the contractor's profit down to the vanishing point and beyond.

To him, the answer is simple.

"In any town," he declares, "you can draw a line between the price builders who are interested only in putting up a house for the lowest possible price and the good builders who are interested primarily in putting up a good house for the money.

"We ignore the former and concentrate on the latter," he said.

"The good builder will insist upon quality work. He knows when he is getting it.

"The contractor who works for him knows he can't get by cutting corners or doing slipshod work. So he does the job right the first time. As a result, the good builder actually doesn't pay much, if any, more for his job than the price builder. But he gets a better house.

"When a builder knows he can get quality work from a contractor, he will throw business his way again and again. We have such a relationship with many builders."

For the contractor who bases his policy on quality work, a key man in his organization is the field supervisor.

"Good field supervisors are hard to find," Fox admitted. "The field supervisor is not necessarily your best mechanic, but he is your best man.

"He knows how to double check everything. He gets subcontractors to come back to fix anything that is wrong. He controls their purse strings. He can clean up what others fail to do.

"He starts up the system and then instructs the customer on how to operate it. When he gets through, we get very few call backs on a job.

"As a result, we have found that customers who have no call back in the first 30 days will brag like hell about their system — especially to their neighbors who may be having trouble."

Crane Revises Its Exhibit At Disneyland

CHICAGO—A revised Crane Co. Disneyland exhibit at Anaheim, Calif. is telling thousands of visitors a week the story of modern heating and air conditioning, the company reports.

The 12-ft. by 12-ft. exhibit "illustrates in color transparancies and flashing lights the methods man has used to warm himself and his habitations from the discovery of fire to the present day," it was pointed out.

Focal point of the display is a sunburst that flashes alternately red and white. Keyed to the flashes are two scenes in the center of the sun-burst of a cutaway drawing of a house. When the red sun-burst lights up the house is shown in a summer setting. The viewer sees the operation of an air conditioning system.

When the rays of the sunburst glow white and the cutaway house changes to a wintry scene and exposes the workings of a hydronic heating system.

Rays around the sun-burst lead the viewer's eye to eight transparencies that trace the development of today's heating systems.

The Crane exhibit is located in the Tomorrowland section of Disneyland.

A second Crane exhibit in the park is included in the Monsanto "House of the Future." The company has supplied to this all plastic home, experimental plumbing and heating systems.

Coleman First Half Profit Hits $184,855

WICHITA, Kan. — The Coleman Co., Inc., reports a profit after taxes of $184,855 for the first six months of 1958.

For the same period last year the company had an operating loss of $349,025. Consolidated sales for the period were $17,855,065 compared to $17,623,693 in the first six months last year.

Sheldon Coleman, president, said the swing from an operating loss to a modest profit is mainly the result of vigorous cost reduction and expense control program. Still further reductions in operating expenses and inventories are being made.

FHA Minimum Property Standards May Not Be Published 'Til October

WASHINGTON, D. C. — It may be October before the Federal Housing Administration publishes its compiled Minimum Property Standards for home building, R. W. Macauley, deputy director of the program division, indicated recently.

Revised Mechanical Engineering bulletins on air conditioning and heating will be incorporated in the new standards, he said.

"It will probably be late July or August before the revisions will be in final form," he stated.

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EXTERNAL MOUNT TWINS
Typical of the twin cylinder models covering the mid range of room air conditioners and commercial applications.
EXTERNAL MOUNT TWINS
Models in the high horsepower range of external twins are used extensively in all types of air conditioning.
INTERNAL MOUNT TWINS
Internal mount twins in this range serve widely in central system, air conditioning, heat pump, and commercial applications.
EXTERNAL MOUNT
These four cylinder, external mount compressors are used in larger commercial and residential air conditioning applications including heat pumps.

112 BASIC MODELS, 1/12 THROUGH 5 HP

PANCAKE COMPRESSORS
16 models between 1/12 and 1 horsepower — high and low temperature — with capacities ranging from 320 to 12000 BTU.

TINY T-LINE COMPRESSORS
7 models between 1/6 and 1/3 horsepower — high and low temperature — with capacities ranging from 525 to 3175 BTU.

SINGLE CYLINDER COMPRESSORS
26 models between 1/8 and 1 horsepower — high and low temperature — with capacities ranging from 430 to 9580 BTU.

TWIN CYLINDER (external mount) COMPRESSORS
35 models between 1/2 and 2 horsepower — high, medium, and low temperature — with capacities ranging from 2140 to 24,000 BTU.

TWIN CYLINDER (internal mount) COMPRESSORS
20 models between 1 and 3 horsepower — high, medium, and low temperature — with capacities ranging from 4650 to 37,500 BTU.

FOUR CYLINDER COMPRESSORS
8 models between 3 and 5 horsepower — high temperature — with capacities ranging from 37,500 to 66,500 BTU.

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AROUND THE WORLD IN 50 DAYS

"Inside Dope" by GEORGE F. TAUBENECK

(Continued from Page 1, Col. 1)

other attractions. His humble verdict:

Australia has everything, doubled in spades. Take harbors. Honolulu, Singapore, Naples, Venice, Pago Pago, San Francisco, Stockholm . . . none so lovely or extensive as Sydney.

Take the gardens in France, Belgium, Monaco . . . Melbourne *as a whole* overshadows them. And away we go. Quick side glances at what should be major tourist attractions follow.

How Dry! How Grand!

Almost everybody knows that the Fifth Continent is the "down under" land, that it is on the opposite side of the world from the United States. But these primary facts, perhaps, are not so well known:

Australia is an island continent, nearly half of which is tropical, and some of which is arid desert.

Most of the population is concentrated along the seashores of Victoria, South Australia, and New South Wales—where residents enjoy a happy clime something similar to that of southern California, or the European Rivera.

A marvelous place to live, indeed!

How Gorgeous!

Jenolan Caves usually are prescribed and described as Australia's premier geographic (or geologic) attraction.

In itself, the 115-mile trip out there from Sydney makes the visit worthwhile. It takes one through the Blue Mountains region—where bracing air, dewy "bush," interesting animals, sleepy villages, hazy horizons, and unsurpassed views abound.

The 11 limestone caves of Jenolan, with their stalactite, stalagmite, and shawl formations, rank with the Carlsbad Caverns of New Mexico as one of the world's most awe-inspiring underground natural wonders.

Visitors truly walk right into the side of a mountain to see the Jenolan caves. After that they trudge and climb tiny steps, and descend slippery staircases along a dimly lit path—until tickers really begin to pound, and legs grow weary.

Nevertheless, the colorful formations (carbonate-of-lime deposits from the drippings of centuries) compensate for the walkathon.

Tapestries, canopies, bejewelled terraces, Corinthian columns, fairy waterfalls, natural sculpturings, and sparkling cathedrals have been formed by these limestone drips, and—particularly in Jenolan's Oriental Cave—they are tinted in gorgeous array.

Ninth Wonder of the World

Stretching for 1,200 miles along the Queensland shore is another Australian natural wonder, the Great Barrier Reef. Captain Cook literally ran onto this freak of geology after having sailed inside it for some 600 miles during his cruise of world exploration.

Australia's immensely exciting Great Barrier Reef is not a solid, continuous wall jutting out of the sea. It is a succession of atolls, reefs, cays, and sandbanks strung along in a line some miles out from the coast.

Viewed from air or sea, it's a visual enchantment.

When the tides are running, the reef forms a breakwater, causing a tremendous surf to churn.

This long chain of piled coral, which guards the northeastern coast of Australia, bulks greater than the combined mass of all buildings man has constructed since the beginning of time, according to mathematically-minded geologists.

It is estimated that the Great Barrier Reef has been under construction for more than a million years. Skeletons of countless billions of polyps have gone into it.

Underwater "gardens" around the coral islands which thread this continuous reef are gasp-evoking in their beauty of form and color.

As in conventional flower gardens, in these underwater polypagalaxies green predominates; but red, blue, pink, mauve, orange, and purple hues add to the magnificence of the array seen by hardy observers.

Glamorous tinted sea creatures, which glide in and out of these coral formations, infuse an idyllic animation into the scene.

From a commercial standpoint, the Reef is a source of considerable income to its utilizers. A profitable pearling industry has been organized thereabouts. Torchus shells are gathered there for the world's button industry, and from submarine vegetation come oils and bases for fertilizers and iodine.

Ever-present sharks are valuable for their skins, vitamin extractions, and as food. Indigenous beche-de-mer, or trepang, is collected there and shipped to the Orient for use in soups.

What the Grand Canyon is to North America, what the Maelstrom is to Norway, what the Alps are to Switzerland, what the Amazon is to South America, this Great Barrier Reef is to Australia, and to sightseers of the World.

Nothing Like Them Anywhere

Australia's strange animals are all alone in this world. Nothing like them anywhere else.

The kangaroo, for instance, is a widely known sample of *Down-Under-Land's* strange creatures. It has become a world-wide symbol for Australia.

This remarkable marsupial, which hops like a giant grasshopper, carries its young in a pouch and boxes like a prize-fighter. There's a hoary old story about an Englishwoman who saw one in a zoo, and asked the keeper about it.

"It's a native of Australia," he informed her.

"Land sakes," she shuddered, "and to think that my sister married one of those things!"

Most kangaroos a tourist *thinks* he sees aren't kangaroos at all. They are wallabies—which are smaller, and aren't fighters.

Real kangaroos range from five to seven feet in height, and carry murderous kicks in their hind legs. Big "boomers" (as Australians call them) can run 50 to 60 miles an hour, and love to keep pace with an auto or railroad train.

Both kangaroos and wallabies feed on grass, which makes them enemies of the "station men" (ranchers). Hence millions of these beasts have been wantonly destroyed, so that sheep and cattle might graze more widely and easily.

The red kangaroo stands between six and seven feet high; the grey averages five feet from crupper to nose-tip, and weighs around 180 pounds full-grown.

Large though present-day specimens seem, they aren't one-two-three with their ancestors—judging by the fossil skeletons dug up and reassembled in the interests of science.

The red 'roo likes the open plains as a habitat and feeding ground; the grey prefers wooded lands. By nature the red is more gregarious than his smaller brother.

In his fighting tactics the kangaroo combines boxing with wrestling, plus New York "mugger" tactics. He'll stand up and spar with his opponent for a while, and then go into a clinch.

Instead of breaking clean he clamps on a half-nelson with his forearms, and proceeds to gouge channels in the other guy's stomach with his powerful, sharp-nailed hind feet.

Common belief has it that the kangaroo is born in a pouch and stays there until big enough to leave. This is not the case, though.

He is born in the same man-

(Concluded on next page)

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(Concluded from preceding page)

ner as other mammals; if he wants a ride he has to climb up and get with it.

The Original Teddy Bears

That cute, found-nowhere-else cuddly koala bear is a marsupial, and the most cunning of them all. It's about the size of a nursery teddy bear, and looks like one come to life.

Apparently the entire life of a koala bear consists of sleeping in the fork of a gum tree, eating gum leaves, rearing one cub each year, yawning, and sleeping some more.

Babies are about the size of half your little finger, are carried around in their mother's pouch for three months, hang tightly to her back for three months more, and then go into the sleeping - eating - yawning - sleeping routine for themselves.

Kid koala has one of the most amusing expressions ever seen on the face of any animal. Because of its perpetual look of combined surprise and aloof dignity, it's a natural comedian.

Astonishingly, because it is so lethargic, the koala can scream loud enough to drown out vocal efforts of almost any other animal in its neighborhood.

Its cry is coarse and grating, and resembles the noise made by a saw ripping through knotty wood.

For an extra-special exhibit we present the platypus, which was thought to be the hoax of a nature-faker when the first one (stuffed) was sent to Europe.

The platypus has the furry body and tail of a muskrat. It has a duck's bill and webbed feet (four), lays eggs (two), suckles its young, gets its food under water, burrows into the ground like a mole, and has nocturnal habits. It's the most preposterous thing alive.

It does not breathe, see, or hear under water, but it can stay submerged for three minutes. Undoubtedly this is one of the most primitive forms of mammal life still in existence on our beleaguered old earth.

Platypus has eyes like a snake's, ears that are mere slits next to the eyes, and strong, sharp claws. It leaves no piles of earth when it burrows. Its eggs are similar to those of reptiles.

Mrs. Platypus exudes milk through her skin, to be lapped up cat-fashion by her young.

The male has two sharp spurs inside the heels of its hind feet. These spurs are hollow, and connected to poison glands.

It loves to romp like a puppy. Food supply consists almost exclusively of worms, grubs, and tadpoles.

After each meal the platypus tidies up. First, it stretches out and bunches the claws of the hind feet into the shape of a comb. Then, turning its body to convenient positions, it brushes its fur vigorously and rapidly.

As it is combing, unfailingly it grinds its jaws—just why, nobody knows.

Jackass and Methuselah

As a comic relief we offer the kookaburra, sometimes called the "laughing jackass." First time you hear one of these owl-like birds laugh, you'll be startled. Sounds like the eerie outcry of a maniac.

Kookaburra is deeply beloved by proud Australians. Fact that he occasionally marauds other birds' nests, and has a taste for pilfered chicken, seems to give him an air of deviltry which is appreciated by whimsical Australians.

His reputation as a snake-killer also has won him many friends among practical-minded Out Backers.

Methuselahs among birds are Australia's cockatoos and parrots. Accepted record for longevity among these species is 110 years.

Relatives of the Pink Elephant

Largest living earthworm yet discovered resides in Australia. Average size of this species is three feet (contracted) and six feet stretched out. Record length is approximately 12 feet.

In shape and color it is much like a long piece of boloney. Hundreds of them are dug up annually in Victoria. First time an American sees one he's ready to swear off the potent Australian beer.

Giant earthworms often get caught out in the hot sun, especially just after a shower of rain. If they are unable to reach their burrow, they dry up and become so hard and brittle that they can be shattered like glass.

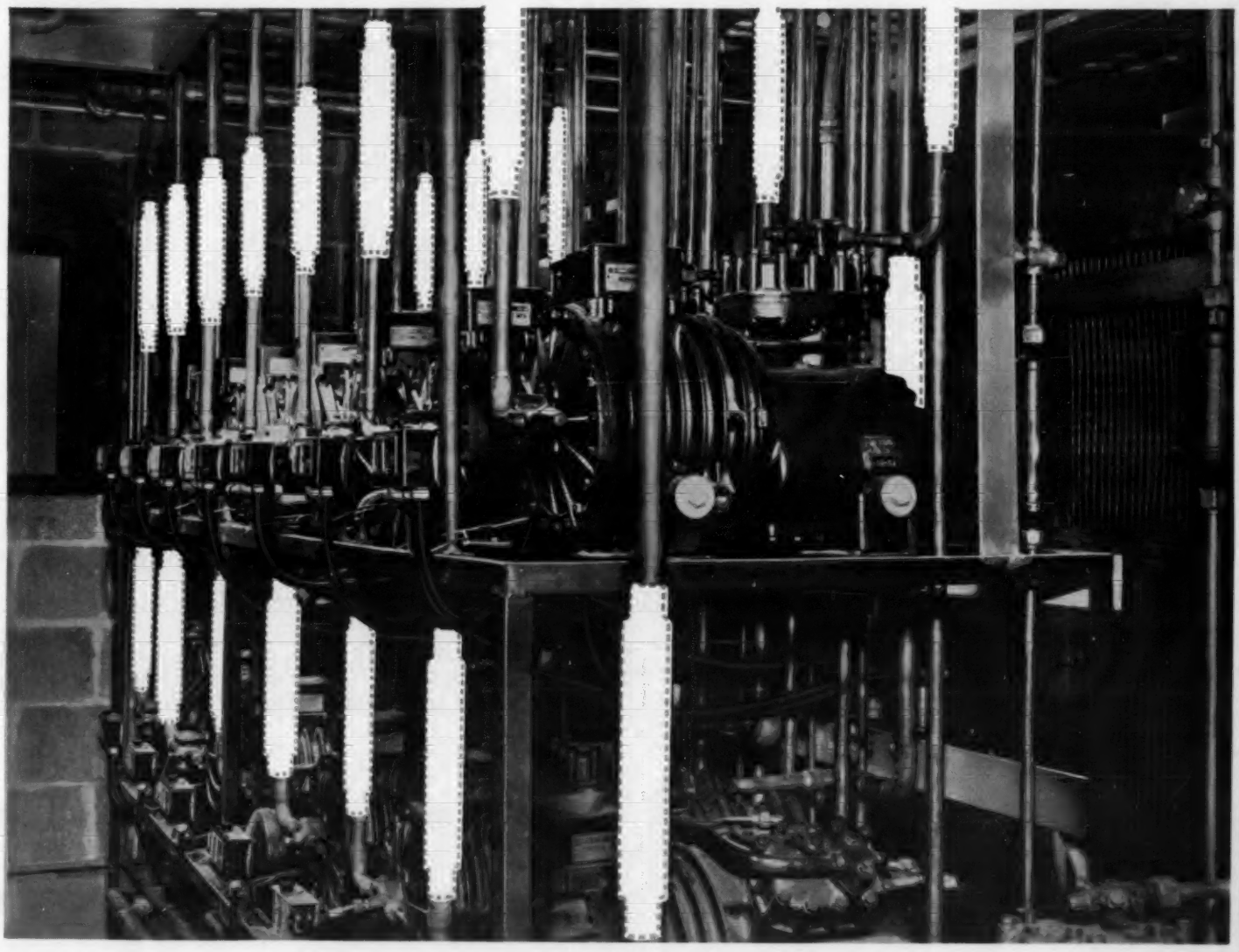
Australians don't eat them, as a rule; but to some Orientals they are a delicacy.

Apparently half-fish and half-amphibian is the Australian lung-fish. It's a six-foot whatisit that, soon after it has been hatched, seems to be akin to a frog. Later it becomes fish-like in its appearance and activities, for it develops the fish's head, scales, gills, and fins.

But, unlike most fish, it also has a "lung." Whenever the water is too muddy for gill breathing, the lung-fish sticks its head out of water and inhales fresh air, just like a whale.

If unique for nothing else Australia still would be famed for its *fauna*. Nothing like these nature specimens anywhere else in the world.

Come see them!



How would you complete this picture—to protect your customers from serious losses in perishables?

Vibration can cause cracked tubing and loss of refrigeration. The refrigerant charge costs plenty—frozen or fresh perishables being stored cost a lot more—and your reputation is more valuable still.

So no job like this is complete without American Vibration Eliminators*, which absorb vibration, dampen noise, and prevent cracked piping. That means satisfied customers. It means satisfied contractors, too—because *your* profits are protected. American Vibration Eliminators are inexpensive business insurance. See your Anaconda distributor.

You can use American VE's with confidence because . . .

THE BASIC METAL'S RIGHT — It's a special tin-bronze alloy. Of scores of copper-base alloys, this one was selected because of its capacity to withstand the punishment of long periods of vibration. The outer wire braiding which adds strength and durability to the VE is also made of tin-bronze.

THEY'RE MANUFACTURED RIGHT — Every step in manufacturing is under close quality control supervision. Seven distinct finishing and cleaning operations result in a product free of dust, dirt or foreign particles. Each VE gets a nitrogen-under-water test to assure freedom from leaks.

VE's arrive clean, ready to use—
They're sealed in polyethylene envelopes — packed in sturdy, easily identified boxes. When you open the package, your quality VE's are factory-fresh—clean inside and out—ready to install in the lines. *Trade Mark 58214

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H-Shaped New York Central Building Getting Year-Round Central Air Conditioning System

NEW YORK CITY—The historic New York Central building at 230 Park Ave. here, long hailed in architectural circles as one of the city's outstanding examples of classic tradition in building design, added a modern note recently with the installation of the first of two giant air conditioning refrigeration machines.

Six pieces of air conditioning equipment, weighing more than 50 tons altogether, were hoisted to a new two-story structure set atop the 15th-floor northwest-wing terrace of the 34-story building.

Second Unit To Be Installed In Fall

The parts comprise the first half of a central air conditioning system based on the use of two Carrier 1,500-ton centrifugal refrigerating machines. The second unit is to be installed this fall.

Work has been proceeding since early in the year on the installation bringing a modern all-year cooling and heating system to the H-shaped showplace structure which bestrides Park Ave. Completion is expected in time for the 1959 summer season.

The "hoist" of equipment, proceeding under a schedule set up months ago, occurred coincidentally a month after the announcement that the building would soon receive a new, modern neighbor directly to the south — a 50-story aluminum-and-glass sheathed skyscraper extending from Grand Central Terminal to 45th St., and from Vanderbilt Ave. to Depew Place.

The 230 Park Ave. cooling system, in addition to the Carrier turbine-driven centrifugal refrigerating machines, will include 2,886 Carrier "Modular Weathermaster" units under all windows to give occupants full control of temperature in their immediate vicinity.

The Conduit Weathermasters will provide winter heating, circulating warm water heated by steam convectors located on the terraces, using "district steam" supplied by New York Steam Co. The heating equipment will be in service in time for the coming winter season.

The Weathermasters will comprise a peripheral system servicing areas within 15 ft. of the outer walls of the building.

Interior areas will be served by a conventional low-velocity reheat system. This system will use chilled water from the central refrigerating plant for cooling. Heating coils within the rectangular ducts will warm air as necessary to meet occupancy conditions of the tenants.

The building, with approximately 850,000 sq. ft. of rentable space, will have interior spaces divided into four zones on floors between the second and 15th. The 16th to 34th floors, with smaller floor areas, require only one zone.

The steam turbines which will drive the centrifugal refrigeration machines are units made by Elliott Co., Carrier subsidiary. Refrigerant 12 will be used in the centrifugal units.

No Basement for Air Conditioning Equipment

Location of the central cooling machinery on the terrace was necessitated by the fact that the building, with railroad tracks underneath, has no basement.

To the building's 5,000 occupants, the hoisting of equipment was a welcome milepost of progress in an installation involving 20 miles of ductwork and 12 miles of piping through office walls, ceilings, and floors. Units under the windows require 15 miles of copper tubing.

Air-moving equipment in the system will provide a complete change of air in the building every ten minutes, moving nearly a million cubic feet of air per minute at near-hurricane velocity through the ductwork, according to Carrier.

Part of the 500,000 man-hours of work required for the project was the removal of 247 tons of old radiators replaced by the all-year air conditioning "induction units," which will be located under each window.

To ease the installation difficulties for the building's occupants, a booklet describing the work has been distributed by the building management. It is titled, "The Not-so-gentle Art of Harnessing a Hurricane in a Beehive on Stilts."

The new air conditioning systems, interior and exterior, will be made available at the tenants' option. Tenants who now have their own air conditioning installations will in many cases continue with these. More than half of the tenants have signed up for service.

Cosentini Associates is the consulting engineer for the installation, with Powers & Kessler as architect and Carrier Corp. supplying equipment. Walker-Brandt Corp. is mechanical contractor, and James King & Son, Inc., general contractor.

WHAT . . WHEN . . WHERE

Oil-Heat Institute of America Directors Meeting
Sept. 3-5, The Homestead, Hot Springs, Va.

National Institute of Locker & Freezer Provisioners Convention and Exhibit
Sept. 21-24, Hotel Sherman, Chicago.

Refrigeration & Air Conditioning Contractors Association Convention
Oct. 12-15, Broadmoor hotel, Colorado Springs, Colo.

Air-Conditioning & Refrigeration Wholesalers Meeting
Oct. 22-24, Sheraton-Palace, San Francisco.

National Electrical Manufacturers Association Meeting
Nov. 10-14, Traymore hotel, Atlantic City, N. J.

National Commercial Refrigerator Sales Association Convention
Nov. 17-19, Golden Gate hotel, Miami Beach, Fla.

American Society of Refrigerating Engineers Meeting
Dec. 1-3, Roosevelt hotel, New Orleans.

National Warm Air Heating & Air Conditioning Association Convention
Dec. 1-4, Cleveland.

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by Jimmy Hatlo

JOE'S NOT FEELING SO GOOD, SO I'M TAKING HIM DOWN TO THE INFIRMARY··· I THINK HE'S JUST A LITTLE BILIOUS····
I GOT LIKE A PAIN ACROSS MY BACK AN' MY HEAD IS KINDA LIGHT··· I THINK IT'S VIRUS OR THE EAST INDIAN FLU····
SOUNDS LIKE SHINGLES TO ME··· LOOK··· MAKE A POULTICE OUT OF POTATO SALAD AN' TIE IT AROUND YOUR MIDDLE···
MY UNCLE JEDDY HAD THE SAME SYMPTOMS··· HE DIPPED HIS HEAD IN HOT VINEGAR FOUR TIMES A DAY····
NO··· GO AROUND TO THE DRUGSTORE AND GET A BOTTLE OF MUGGETS··· THAT ALWAYS FIXES ME UP···
WHAT DO WE NEED AN INFIRMARY FOR? HE'S GOT TEN DIFFERENT CURES BEFORE HE LEFT HIS DESK····
THE ELEVATOR MAN WILL KNOW WHAT TO DO FOR HIM··· HE TOOK A VETERINARY COURSE BY MAIL····
LET SOMEBODY FEEL A LITTLE LOW AND EVERYBODY WANTS TO GET INTO THE MEDICINE-MAN ACT····
THANX AND A TIP OF THE HATLO HAT TO "CLOCKER" DETROIT, MICH.
6-12
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One Motivation Research Revelation Will Help Sell Prospects Easier

RESEARCH consists, essentially, of discovering what facts you need, obtaining these facts (or good guesses!)—and knowing what to do with them afterward.

Bringing to the surface simple, useful information which few will quarrel with—facts that can be put to work for you and your clients—possibly is the most valuable end-product of every type of research utilized by management.

The exciting new venture into consumer psychology, Motivation Research (delving into emotional and subconscious drives), is a case in point.

It isn't nearly so obvious as other types of research. Yet, sometimes an unexpected "MR" answer to a business problem is so obviously logical that "why didn't we think of that right away?"

Likewise, in a seemingly complex selling situation, sometimes an old-fashioned, "corny" method of treating buyers turns out to be the best approach, Motivation Research studies indicate. For instance:

"Maintaining customer loyalty to a good product by identifying it with a well-known personality obviously is the quickest and least expensive way to promote any business enterprise," avers John Darrow of Motivation Research, Inc.

It's "testimonial advertising," in essence.

"Personalization" promotion strategy for corporations is time-tested, psychologist Darrow points out.

"If the market is too big for individual salesmen to cover all bases, it's wise to identify the product in advertising and promotion with a glamorous person whose reputation is acclaimed by one and all.

"Witness the identification of Walter P. Chrysler with his huge automobile empire (likewise Henry Ford).

"Also Heinz and Campbell with soups, Birdseye with frozen foods, Bell with telephones, and the worldwide Ask Mr. Foster travel agency," adds Darrow.

Motivation Research isn't an exact science as yet—and maybe never will be.

However, it does bolster the tested premise that identification of a company with a publicized person (either through testimonials or public appearances or in paid advertisements) is valuable *low-cost* promotion.

Superannuated sales managers still believe that people solve their problems rationally—consciously calculating their buying desires to achieve sensible and rational economic goals.

This "school of thought" is rebutted by Motivation Researchers who emphasize that people's subconscious, sometimes illogical, *always psychological* impulses provide the real purchasing motives.

As Pierre Martineau, Director of Research and Marketing for the *Chicago Tribune* puts it:

"Consumers don't care how a product is built. They buy because of their feelings toward a particular company and what its product will do toward satisfying some inner compulsion."

Apparently most people buy something or anything to satisfy a hidden emotional desire (such as imagining they are buddies of an admired PERSONALITY—as children do when they buy records sung by Pat Boone, Elvis Presley, or Doris Day).

Can you sir, apply emotional MR (motivation research) to your sales problem? Of course.

First, though, you must find out what that problem is. (That seems elementary enough.)

Then you need to find an Admired Person (or publication which is believed by its readers) to which you can attach your hopes for bigger sales volume and greater profits.

Assuming you have secured a headliner "publicity pigeon" for identification with your company—Testimonial Advertising will help sell your widget and/or service.

Research is cheap at the price if you need to be right. It can help you learn what your customers and prospects really want—price, convenience, or emotional satisfaction.

If it's the latter, hire a Dinah Shore or a Mickey Mantle. Or advertise in a universally respected publication, whose reader respect will rub off on your advertisements.

Basic research is what I am doing when I don't know what I'm doing.—WERNHER VON BRAUN, rocket chief.

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AIR CONDITIONING & REFRIGERATION NEWS

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'The Conscience of the Industry'

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VOLUME 84, NO. 13, SERIAL NO. 1,531, JULY 28, 1958

THIS MAN'S GOT IT MADE—AND HE KNOWS IT

American Stores Co.
Baltimore, Md.

Editor:

Last week when the temperature was in the high eighties and the humidity was 99%, a neighbor lady called to ask to go with us into the city that evening, with this explanation:

My husband says he owns an air conditioned store, an air conditioned automobile, and an air conditioned home, and nobody is going to drag him down town on a night like this.

WALTER E. PATTEN

WEATHERBUSTER CORP. IS IN CAMDEN, ARK.

The Weatherbuster Corp.
Camden, Ark.

Editor:

We have our copy of June 9 issue of your wonderful publication.

I am certainly thankful for the nice mention you gave the Weatherbuster in your article on gas air conditioning, and at this time I would like also to thank you for the publicity you have given us in the past.

Such publicity as this is certainly a big help to a small concern such as ours, in reaching the air conditioning industry.

In this article of June 9 issue, there is a slight error in the Weatherbuster paragraph, inasmuch as the Weatherbuster condensing unit has always been manufactured in Camden, Ark. I am not criticizing you for this error and place the blame entirely on myself for not keeping you more informed on the type of equipment, etc. that we manufacture.

At the present time the Weatherbuster only makes four models of an air-cooled condensing unit, ranging in maximum capacities of 4 to 12 tons inclusive. Although the Weatherbuster condensing unit is still in its infancy, we feel we have come a long way in the development and promotion of this unit.

Our first condensing unit was built in 1946 and showed such extreme low operating cost that we built and installed several more, which gave further proof of the low operating cost.

In 1955 we started making these units and selling them mostly to gas utilities who merchandise air conditioning equipment. During the past three years, hundreds have been placed and are operating satisfactorily.

The Weatherbuster Corp. has never attempted to manufacture an evaporator section for this unit, due to the fact that there are many fine evaporator sections manufactured, that will match our condensing unit. Also, we like to put all our efforts toward the condensing units.

S. R. WOOD,
President

WANTS TO REPUBLISH SERVICE EDITORIAL

General Electric Co.
Louisville 1, Ky.

Editor:

We feel that your editorial titled, "People Talk About Poor Service: Personally Prefer Performance to Price," points very strongly toward many of the service industry's sore spots.

We also feel that it would benefit everyone in the service industry to read it.

Enclosed is a copy of the July issue of *The Product Man*. We would like to print your editorial on the first page just inside the front cover of a forthcoming issue.

H. P. COBB,
Product Service Sales and Distribution Dept.

TECHNICAL CENTER

By Frank J. Versagi, Technical Editor

Copper Tubing (8)

Ferrous piping is so familiar that only a brief review of the major types is necessary. *Ferrous* refers to all materials containing iron.

Wrought steel pipe, available either welded or seamless, is used extensively in heating and ventilating. This pipe is used where coiling, bending, or other severe working operations must be performed. The seamless pipe is listed as pressure piping in sizes below 2 in.

Wrought iron pipe is identified by a spiral line marked into each length, either knurled or in color. Otherwise, it is little different in appearance than steel pipe, although microscopic examination will reveal quite different grain structures.

Wrought iron pipe is considered superior to steel pipe for radiant heating slabs by some who have had the experience of steel piping being attacked by cement while iron piping held up.

Either iron or steel may be alloyed with other elements to give alloyed pipes for specific uses.

Cast iron pipe, available from 1½ through 6 in., is made to dimensions closely approximating those of extra strong wrought iron pipe (Schedule 80). It is made from good grade cast iron with or without additions of nickel, chromium, or other elements. The material can be easily threaded or welded.

As is the case with all piping materials, there are a multitude of special materials and sizes for specific applications and industries—as the stainless steel tubing used in food and beverage handling. For plumbing, heating, and cooling, however, steel and iron pipe in Schedule 40 is the most commonly encountered.

Use of Plastic Pipe Increasing

Plastic pipe is finding increased use in plumbing, heating, and cooling. Plastic, for example, is used in water lines—some smaller cities even having experimented with an all-plastic distribution system—it is used in radiant heating for floor panels; and plastic is found on cooling towers, so that this new material is one to consider and watch.

Detailed coverage of the major plastic pipe materials is available in the "Corrosion" reprint available from the NEWS. Here we will quickly review the major points about plastic pipe.

Polyethylene, the flexible, black plastic tube which comes in coils is the most familiar. This is the pipe used in wells, in farm water distribution systems, on cooling towers. Like copper, polyethylene's long lengths and flexibility make for easy handling around obstacles and for laying long lengths with only a few fittings.

Unlike copper, and other piping materials, polyethylene tube's dimensions are controlled by the inside diameter, not the O.D. Since this plastic tube is fitted with insert type fittings and hose clamps, the I.D. must be constant throughout the several pressure ratings, and the O.D. changes as the wall is altered.

Polyethylene tube is available in standard IPS sizes. In this case, the working pressure decreases as the nominal diameter increases. Thus, a 1-in. polyethylene tube has a higher working pressure than a 2-in. tube.

To avoid this variable, polyethylene is offered in pressure-rated sizes. In these specifications, all the diameters of a specific rating will have the same working pressure—obtained by control of the wall thickness. The common pressure-rated tubes are 75 p.s.i. and 100 p.s.i.

Rigid plastic pipe is available in 10 and 20-ft. lengths. Like iron pipe and copper tube, this plastic pipe has a fixed O.D. and is made to IPS sizes in Schedules 40, 80, and 120. Lighter schedules are also available. With the O.D. constant, rigid plastic pipe can be fitted either by threading or by solvent welding.

Solvent welding is the process of applying a solvent to the pipe and fitting socket. The two are fitted together and the solvent chemically welds them together.

Two major rigid pipes are on the market. One is polyvinyl chloride—commonly called PVC; the other is Kralastic—a rubber-plastic blend. The name Kralastic belongs to Naugatuck Div., U. S. Rubber, but is used generally to refer to the material it specifies.

Both materials are corrosion resistant for general purposes. In heavy chemical work, each has specific advantages which make one or the other superior for a given installation.

The rigid pipes, especially in lighter schedules, are used for radiant heating—the lower cost and ease of installation making them quite competitive with metal piping. Both are popular for water distribution—with one major city expecting that in 10 years or so, all of its water distribution will be PVC.

Kralastic is used extensively for conduction of natural gas to irrigation pumps in the Southwest.

Both have found use as drain lines in refrigerated display cases, for component piping on units which will be installed where internal or external corrosion is a problem.

Investigation has shown that the overwhelming number of plastic pipe failures have occurred through misapplication or abuse. There are places where plastic should not be used. However, there are increasing instances where plastics can be safely and economically used, and more and more codes are beginning to recognize them as legitimate engineering materials, not second-cousin substitutes.

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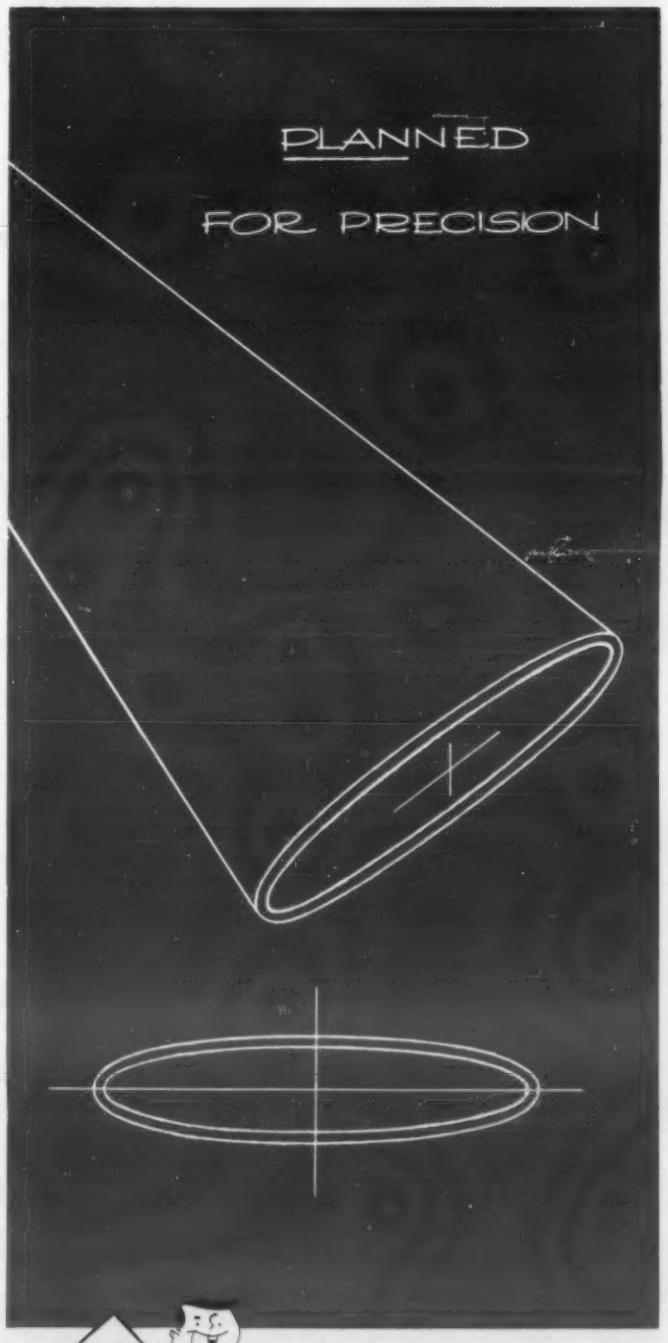

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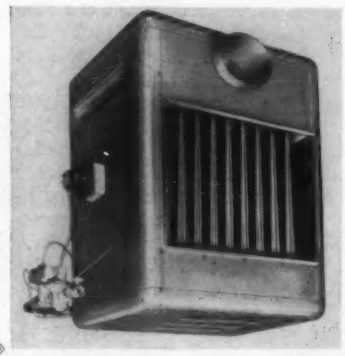
Milk Truck System Available as 'Split' Unit

The "Lance" continuous refrigeration system for retail milk trucks, manufactured by the Kold-Hold Div., Tranter Mfg., Inc., Dept. AC&RN, 735 E. Hazel St., Lansing 9, Mich., is now available as a "split" unit.

The split Lance differs from the standard model in that the condenser assembly is mounted remote from the compressor, motor, clutch, and generator assembly.

The Lance is a compact unit measuring 25¾ in. wide, 13¼ in. long, and 13½ in. high. The condenser assembly is 11¼ in. wide, 30 in. long, and 13½ in. high.

Among the many advantages which the split Lance system offers are a rapid recovery after door openings; dry, safe, milk storage over night permitting preloading at any hour; no battery drain; quiet, 24-hour operation; low center of gravity; and larger pay loads.



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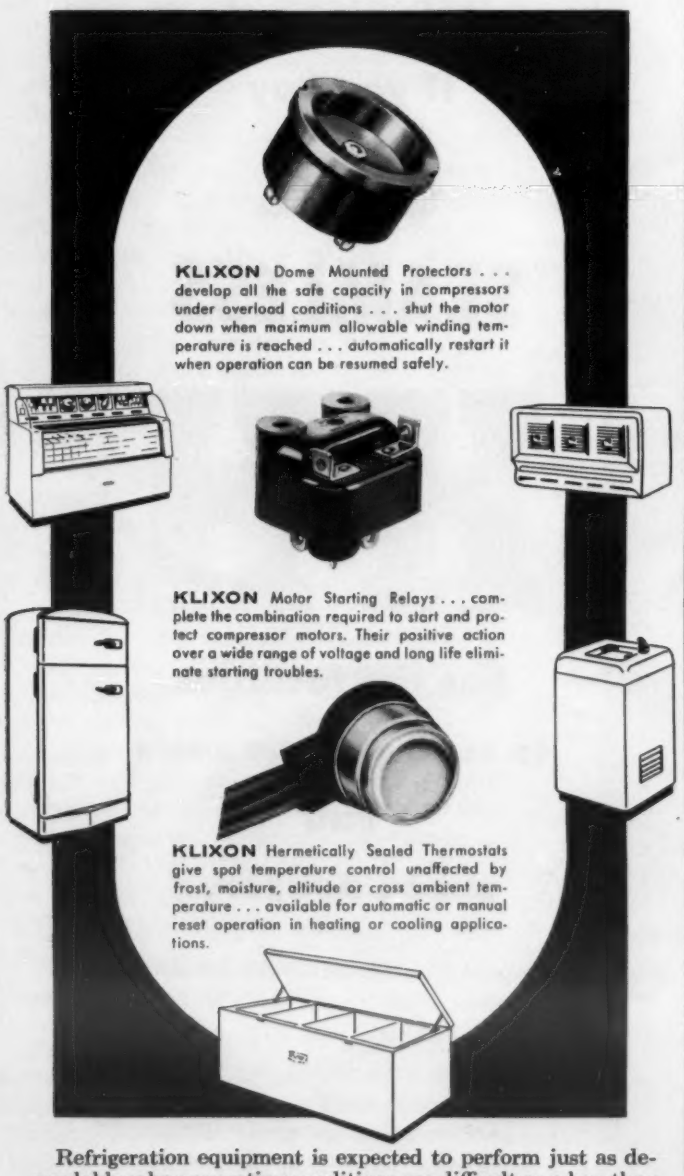
CONTROLS


KLIXON Dome Mounted Protectors . . . develop all the safe capacity in compressors under overload conditions . . . shut the motor down when maximum allowable winding temperature is reached . . . automatically restart it when operation can be resumed safely.
KLIXON Motor Starting Relays . . . complete the combination required to start and protect compressor motors. Their positive action over a wide range of voltage and long life eliminate starting troubles.
KLIXON Hermetically Sealed Thermostats give spot temperature control unaffected by frost, moisture, altitude or cross ambient temperature . . . available for automatic or manual reset operation in heating or cooling applications.

Refrigeration equipment is expected to perform just as dependably when operating conditions are difficult as when they are favorable.

Mostly this is a question of keeping refrigeration compressors running at maximum safe capacity under overloads, high room temperature, low line voltage, etc., or combinations of such abnormal conditions.

The KLIXON Refrigeration Controls shown at the right have achieved a high reputation for getting the maximum safe capacity out of refrigeration systems under abnormal conditions . . . assuring minimum maintenance and service calls. Manufacturers of refrigeration equipment are urged to investigate KLIXON Motor Protectors, Starting Relays, and Hermetically Sealed Thermostats. Literature sent free on request.

METALS & CONTROLS CORPORATION

Spencer Division 2407 Forest Street, Attleboro, Mass.

KLIXON

Unit Heaters Offered In New Range of Sizes

A new range of sizes in duct-type gas-fired unit heaters for commercial and industrial heating is now available from American-Standard, American Blower Div., Dept. AC&RN, 8111 Tireman Ave., Detroit 32.

The new American Blower duct-type gas-fired unit heaters are recommended for automatic heating in all types of commercial and industrial forced-air duct-distribution systems.

The new units feature an advanced design with side-mounted gas controls, which are suitable for connection to either side. They are furnished with low-voltage control and a 24-volt transformer having a dual primary circuit suitable for either 115 or 230-volt connection.

The new size range includes six models rated from 50,000 to 165,000 B.t.u./hr. input, adding to previously established 205,000 and 230,000 B.t.u./hr. input sizes.

Self-Service Produce Cases Bowed by Hill

A new line of self-service produce merchandisers, designated models 573 and 543, has been announced by C. V. Hill & Co., Inc., Dept. AC&RN, Trenton 1, N. J.

The 573 series is available with front or rear refrigerated storage or top display only. The canopy can be selected with stationary, transparent mirror and/or sliding doors for rear loading.

The 543 series (without canopy) is designed for over-the-rear stocking, as an island unit or as a back to back merchandiser. The 543 series is also available with front or rear storage or top display only. Matching non-refrigerated models are also available.

These new merchandisers are manufactured in 8 and 12-ft. lengths.

Embassy Adds Air-Cooled Packaged Chillers

The addition of air-cooled packaged chillers to its line of cooling products has been announced by Embassy Steel Products, Inc., Dept. AC&RN, 890 Stanley Ave., Brooklyn.

Available in models from 3 hp. through 15 hp., the chillers are compact, completely assembled units, charged and wired at the factory to reduce installation costs. They are full cork insulated.

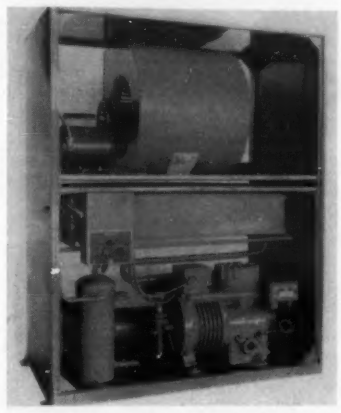
Models from 3 hp. through 7½ hp. have one chiller; 10 hp. and 15 hp. have two separate chillers. Either one or both may be used depending on the cooling application required.

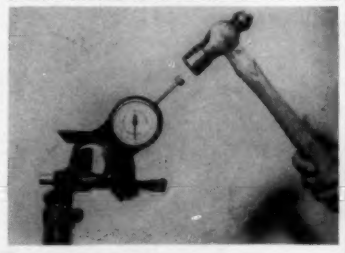
The condenser is large surfaced, copper tubing with aluminum fins for rapid heat transfer. Liquid receiver is of ample capacity to insure peak performance.

Chiller is equipped with a charging valve and test cock to check refrigerant level when the unit is pumped down. Starter is a heavy-duty refrigeration type, completely wired at the factory.

Dual pressure controls are installed on all units and factory set. The chillers may be installed indoors or outdoors and are enclosed in a water-proofed, heavy-steel cabinet, finished with weather resistant enamel.

Every Embassy packaged chiller is backed by a factory one-year warranty.





Multi-Purpose Gauge Said To Save Time

A gauge that sets angles, locates centers, and levels surfaces is now available for national distribution from Brite-Line Corp., Dept. AC&RN, 3385 Brownlow Ave., Minneapolis 26.

It combines three basic machinist's tools in one: angle gauge, centering-head, and level. Called the "Miracle Point Indicator," the self-contained gauge does the work quickly, simply, and accurately, up to 600% faster, and leaves both hands free for adjusting.

Functionally, the indicator combines a 360° calibrated dial and a sealed, mercury-balanced level enclosed in a cast aluminum housing, plus a centering head mounted on a 90° cast iron V-base.

Two lifetime "Alnico V-magnets" welded in the base hold the indicator securely to any metal. The mercury balance is accurate to within three minutes of a degree. Computing, layout, and scribing errors are eliminated.

Specifications are height: 5¼ in.; width, 5 in.; depth: 1 in.; weight: 15 oz. A 23-oz. hinged metal carrying case is included, as well as a one-year guarantee, from date of registry, against any defects in materials or workmanship.

Recold Offers New Compact Evaporative Condensers

A new, compact, DF-A series, "Dri-Fan" evaporative condenser nominally rated through 193 tons for ammonia and 233 tons for "Freon" was announced by H. T. (Hy) Jarvis, president of Recold Corp., Dept. AC&RN, 7250 E. Slauson Ave., Los Angeles 22.

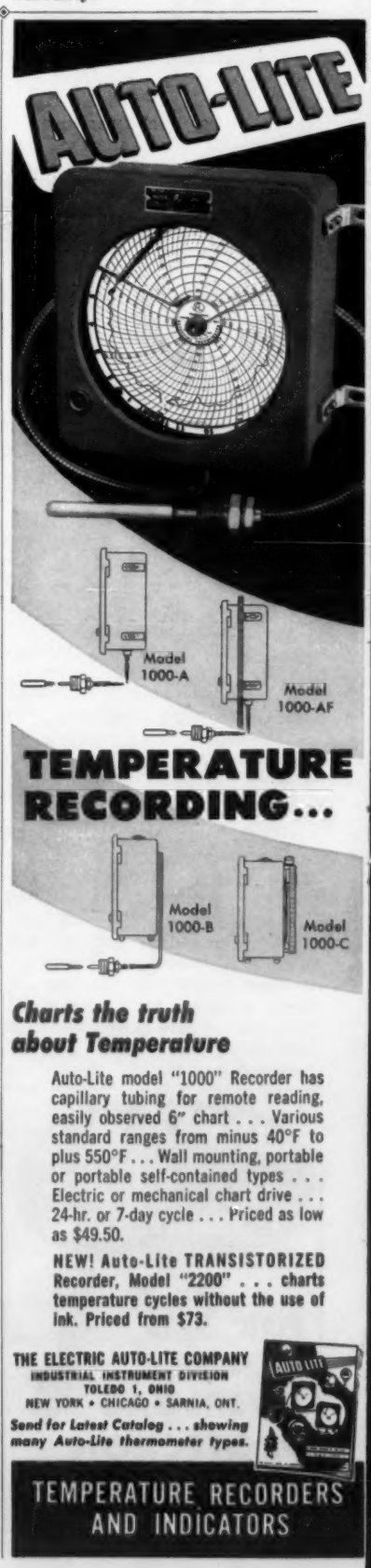
The 94-in. wide factory assembled DF-A unit is designed to be transported by truck in one piece. If necessary, the unit can be completely disassembled and reassembled on the job.

Blowers may be easily detached from the unit as the shaft is sectionalized and linked with flexible chain couplings.

The new DF-A is designed to retain features such as, free sliding "access doors," non-clogging "bleed funnel," water-tight and mastic-free "corner construction."

New features include a shaft of 1 11/16 in. precision-ground cold rolled steel, joined between the blowers with flexible chain couplings, covered with weather protection mastic, and encased in a metal housing; and a frame of 3 in. by 3 in. by ⅜ in. angle iron, hot-dipped galvanized.

Also available with the unit are modulating dampers with controls to regulate head pressures during reduced load conditions. Spray section access doors are optional and are recommended where the unit is installed with discharge ductwork.



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NEW! Auto-Lite TRANSISTORIZED Recorder, Model "2200" . . . charts temperature cycles without the use of ink. Priced from $73.

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TEMPERATURE RECORDERS AND INDICATORS

Air Distribution Requirements In Year-Round Air Conditioning

Part 2-Fundamentals of Air Handling

By Frank D. Klein, Chief Engineer, Governair Corp.

Failure to recognize the *"abrupt expansion effect"* on the part of installers as well as engineers contributes much to the confusion when performance is questioned. Equipment design engineers to a great extent are guilty of ignoring such an effect and its influence on the performance of the fan or blower equipment in their unit.

This "abrupt expansion effect" is technically known as the "Borda Effect" or Borda Loss, because the effect itself belongs in the category of losses from the total effect of the system, regardless of whether it occurs in the duct or in the motivating unit.

Discussion on this for the moment will be in two parts, encompassed by the whole; that is, the Borda Loss as influenced by the abrupt expansion of velocity from the discharge outlet of the fan into a discharge plenum and the abrupt expansion of velocity from one cross sectional area of a duct into another larger area.

C. Harold Berry in his "Fan and Flow" outlines this Borda Effect very well and it is his explanation that will be used as a basis for illustrating the occurrence of the two sub-divisions above.

First, to examine the very foundation of the effect and explain its mathematical calculation. The name of the equation and the effect arises from the name of the phenomena, Carnot-Borda.

The phenomena involved is that derived from air more or less "spilled" downstream from point of discharge into a larger area. It is known that velocity in itself will vary, from one area to the other; that the velocity of the air upstream from the enlarged area will be higher than that of the area downstream.

Berry, Carewe, and myself in collaboration with a number of other investigators in this field have had to accept the possibility that when a stream of slower moving air collides with another body of air moving at a higher speed, turbulence occurs at once with returbulating side effects.

Thus, when a faster moving stream of air confined in a smaller area is discharged abruptly into a larger area bearing a slower moving body of air, turbulence of varying nature results; such turbulence is at once characterized by positive and negative velocity pressures.

Furthermore, experience and observation have shown that if a sufficient amount of length in the larger area is given, to allow the turbulence to subside, the mixed velocity takes on a character of its own and becomes more or less uniform over the entire cross section of the new area.

Flow of this type is no different than the discharge of a stream of high velocity water discharged into a slow moving stream of water; eventually though the lower velocity takes on the character to some extent of the higher velocity, the ultimate mixed velocity at a given point downstream will produce a uniform velocity.

In this discussion of air and its movement in this nature, though the velocity pressure of the high velocity stream is reduced, and an increase in static pressure should be expected, the entire evolution involves a reduction in Total Pressure.

There must be and there is a basis for calculating this effect. Berry succinctly states that the fast and slow moving bodies of air combine in "Inelastic Impact." Which is to say that while momentum is conserved, Energy in itself is lost.

The phenomena thus may be calculated in such a basis by the Borda Equation for Loss as follows:

a. Let H_1 equal Total Pressure (head) loss in Feet.

b. Let V equal FPS.

Therefore:

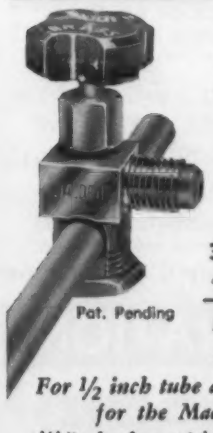
$$H_1 \frac{(V_1 - V_2)^2}{2g}$$

Thus it will be recognized that the loss depends on the square of the differences between the two velocities, *rather* than the differences between their two squares. In other words it is the square of the velocity lost divided by 2g.

To discuss the mathematical calculations further is to detail points important only to those concerned with the infinite aerodynamic functions influencing cause and effect of such phenomena. It IS important however to recognize the phenomena and the fact that its influence can be considerable.

(To Be Continued)

PERFORMANCE PROVED!
Madden HP-41 Hermetic Port Valve



1 VALVE PIERCES 4 TUBE SIZES!

3/16"	1/4"
5/16"	3/8"

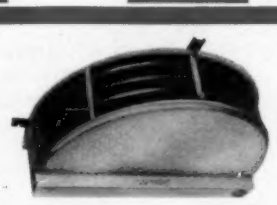
Pat. Pending

For 1/2 inch tube ask for the Madden HP-68

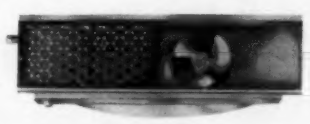
Write for free catalog R-358 listing other Madden performance-proved products: valves, fittings, charging lines, etc.

MADDEN BRASS PRODUCTS COMPANY
AURORA 6, ILLINOIS, U.S.A.
EXPORT: Ad Auriema 89 Broad St., New York, N. Y.

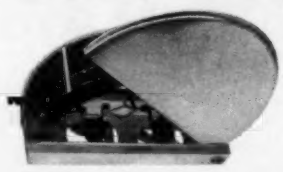
TENNEY



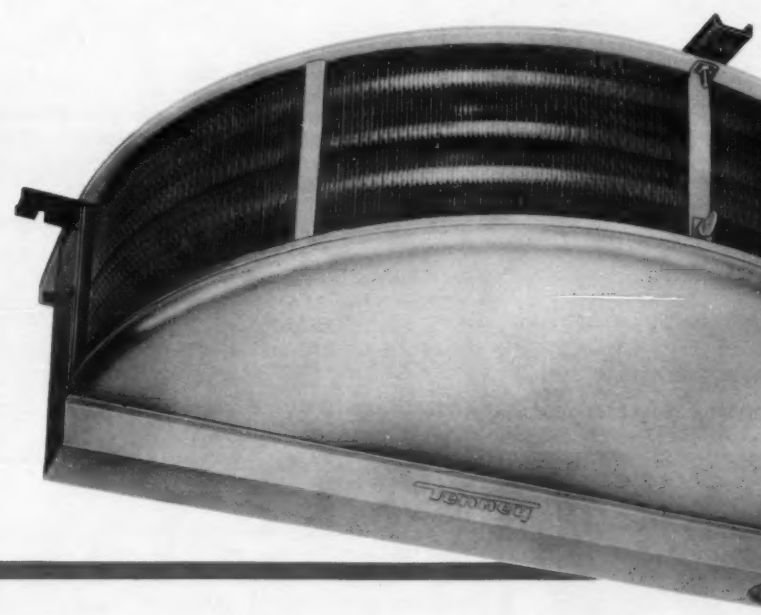
half round...



twin fanned...



easy to service



Tenney TW and TWF unit coolers now ALL-ALUMINUM!

More cooling power per square inch and most convenient installation with Tenney's TW and TWF unit coolers than with any other comparable units—*and now they're built of lightweight, rustproof aluminum.* True half round design insures maximum air distribution. It hugs up tight against the ceiling and its unique design allows maximum product storage. Service is so simple—flick off a thumb screw and the entire unit is open, with all parts within easy reach. You never disturb existing refrigeration, electrical or water drain lines! And in case of emergency, *one* of the unit's two fan-and-motor combinations can maintain safe temperatures until help arrives. Standard filters are optional on both units. Write for literature and technical data on these new all-aluminum TW and TWF unit coolers today.

Write for Bulletin 104-54

Engineers and Manufacturers of Refrigeration and Environmental Equipment

Tenney ENGINEERING, INC.

1090 SPRINGFIELD ROAD, UNION, NEW JERSEY • PLANTS: UNION, NEW JERSEY AND BALTIMORE, MARYLAND

Detroit Commercial Sales

881 Condensing Units Installed During 1957; Top 10 Contractors Account for More Than Half of Jobs

DETROIT — A total of 881 condensing units for commercial refrigeration applications was installed during 1957 in the city of Detroit.

This compares with 1,529 in 1956, 1,005 the preceding year, and 1,303 in 1954.

These figures were determined by AIR CONDITIONING & REFRIGERATION NEWS from an analysis of installation permits issued by the city's Department of Buildings and Safety Engineering.

Figures Don't Cover Metropolitan Area

They do not apply to the entire Detroit metropolitan area, however, because the permits cover only those installations within the city limits.

Commercial refrigeration data has been broken down into four accompanying tabulations. These show sales by size of unit for 1957; a comparison of installations by make for 1957; a breakdown of 1957 installations according to individual contractors; and where the units were installed in 1957.

Installations tabulation by size of unit indicates that the ¾-hp. size led by a slight margin of 167 to 164 over those of 1 hp. last year. Installations of commercial units have been falling off in Detroit in recent years and it is interesting to note that a big part of the drop has occurred in smaller size machines —those of ½ hp. and under. Of those units in this classification, by far the greater number are of ½-hp. size, very few under.

There were 114 1½-hp. units installed in 1957, 111 of 2 hp., 94 of 3, 46 of 5, and 36 over 5 hp.

One Manufacturer Far Outdistances Others

Another table shows installations by make for 1957. It indicates that Make No. 1 far outdistanced the others with 215 jobs amounting to 397¼ hp. Nos. 2 and 3 were closely bunched at 97 and 94 units and 192½ and 228 hp. Make No. 4 was back somewhat with 74 and 71 while No. 5 had 67 jobs and 89 hp. Make No. 5 was the surpriser, having 59 units and a big 655½ hp. Other comparisons of number of installations and horsepower ran pretty much according to pattern except for No. 17 with six jobs but 230 hp. and No. 20 with 4 jobs and 80 hp. There were nine makes with only one installation apiece.

Also tabulated are installations by contractor which show that Contractor 1 led the field with 96 installations and 134 hp. No. 2 wasn't far back in units with 91, but had less than half the horsepower of the leader with 70¾. No. 3 had 61 jobs for 117¾ hp., No. 4, 41 and 135¾, while No. 5 installed 40 condensing units for 82½ hp.

Others remain fairly consistent with number of units installed and horsepower except for No. 23 with eight jobs and 395 hp. and No. 50 with only four installations but a whopping 425 hp. At the low end of

(Concluded on next page)

Size of Units In 1957 Detroit Commercial Refrigeration Installations

Size	No.
½ and under	149
¾	167
1	164
1½	114
2	111
3	94
5	46
Over 5	36
	881

Sales for Years 1951-1954 Compared by Size

Size In Hp.	1951	1952	1953	1954
½	337	284	167	126
½	302	381	265	217
¾	320	275	235	173
1	323	240	229	170
1½	150	135	148	138
2	130	136	182	160
3	124	77	101	144
5	53	23	51	94
Over 5	57	46	58	81
Total	**1,796**	**1,534**	**1,436**	**1,303**

1957 Detroit Commercial Refrigeration Installations By Contractor (No. and Hp.)

Contractors	No.	Hp.
1	96	134
2	91	70¾
3	61	117¾
4	41	135¾
5	40	82½
6	37	38¾
7	32	45¾
8	29	62
9	26	43
10	24	136½
11	24	23½
12	23	19¼
13	21	23¼
14	18	39½
15	17	25
16	13	8½
17	13	35½
18	12	10¼
19	11	15
20-24	5 at 8	435
25-29	5 at 7	67¾
30-34	5 at 6	74
35-38	4 at 5	34¼
39-50	12 at 4	467¾
51-60	10 at 3	37
61-68	8 at 2	16
69-100	31 at 1	356¼
	881	2,454½

Where Commercial Refrigeration Units Were Installed In Detroit In 1957

Establishment	No.	Units	Hp.
Market	257	432	898¾
Commercial	71	110	104
Restaurant	67	76	78¼
Tavern	39	50	33¾
Drugstore	17	31	11¾
Florist	16	20	10¾
Factory	13	22	174¾
Product market	13	32	47
Hospital	12	15	25
Beerstore	12	14	9¼
Packers	10	15	297½
Bakery	9	13	20¾
Milk depot	9	11	16¾
Fish market	8	14	55
Confectionery	7	7	67
Warehouse	6	8	488¼
Caterer	4	4	2½
Creamery	4	5	156
Hotel	2	2	4½
	576	881	2,454½

a light touch* AND IT'S SEALED!

Jarrow's Safeseal Gasket... developed for the new safety-type spring and magnetic refrigerator and freezer doors.

* as low as 4 lbs. pressure

Positive seal is assured with as low as 4 lbs. pressure because "Safeseal's" soft-acting rubber is sensitive to the lightest touch.

"Safeseal" can be made to your exact requirements for any low-tension spring or magnetic door, based on this patented design. Send us blueprints of your doors.

Jarrow experienced engineers can help solve your every gasket problem. No cost or obligation for this service. Write today.

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Almost a Third of a Century of Gasket Experience
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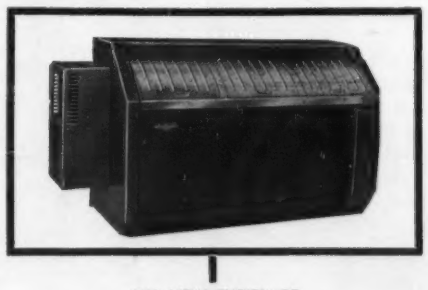
THE COMPLETE LINE FROM LA CROSSE . . .
FIRST IN ECONOMY
FINEST IN DESIGN



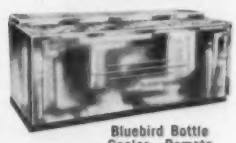
THE NEW THRIF'AIRE

Top value at a new low, low price . . . the La Crosse THRIF'AIRE Bottle Cooler. Exclusive "plug-in-panel" refrigeration unit . . . grey baked enamel . . . 42" and 62" lengths . . . fingertip, stainless steel, slide-away doors.

Direct Draw Refrigerated Faucets

Upright Low Temperature Freezer

La Crosse Self-Contained Bottle Cooler

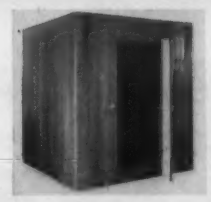

Bluebird Bottle Cooler—Remote

LA CROSSE COOLER COMPANY
LOSEY BOULEVARD SOUTH, LA CROSSE, WISCONSIN
WALK-IN COOLERS · BEVERAGE COOLERS · DIRECT DRAWS · CUBE MAKERS · DRAINBOARDS
EXPORT OFFICE • 125 BROAD ST., NEW YORK • CABLE EXIMPORT

THE MASTER SERVICE MANUALS - - -
— — — and other books of the Refrigeration Library are depended upon as textbooks in trade schools from coast to coast.
BUSINESS NEWS PUBLISHING CO., DETROIT

A. H. BROMANN JR. INC. - REFRIGERATION

Custom Quality Walk-in that Includes NEW MONEY SAVING Construction Methods



Over 60 years of experience has gone into developing new construction methods that result in savings on list price. Some of the custom features include: button nail design . . . expandables in 26" multiples . . . full 3⅝" fiber glass insulation . . . ¾" kiln dried fir . . . new sectional locking devices . . . clamp nail frame construction. . . .

WRITE TO—A. H. BROMANN JR. INC.—Schiller Park, Illinois

Detroit Sales--

(Concluded from preceding page)

the list were four contractors with five jobs, 12 with four, 10 with three, eight with two, and 31 with only one. Total horsepower amounted to 2,454½.

As has been the trend in the past, top 10% of the contractors, or just 10, installed more than half the jobs. Total installations of the first 10 amounted to 577 out of 881 or 65%. This is even greater than in former years when it averaged 51%.

Leading Contractor Got 10.9% of Jobs

Leading contractor garnered 10.9% of total installations last year. Nearest competitor was No. 2 with 10.3% of the total, No. 3 had 6.9%, 4 had 4.6%, and 5 had 4.5%.

Final tabulation of the Detroit commercial refrigeration installation data shows the type of establishment where units were installed during 1957.

This indicates the 881 units recorded went into 576 different establishments during 1957.

Food store classification (or market), as might be expected, is the largest user both in terms of number of units and horsepower. It led with 432 units and 898¾ hp. installed in 257 places. Second largest user was "commercial" group with 110 units in 71 different places for 104 hp.

Restaurants are third having 76 units installed in 67 different spots and taverns are well down in fourth place with 50 units in 39 bars.

Last year's classifications was lowest in years with just 19 different generalized establishments. Other categories of note include drugstores with 17 having commercial units installed, florists at 16, factories at 13, produce markets also at 13.

30°F. Chicken Storage Room Eliminates Ice Melting Problem, Loss of Weight

MANDATA, Pa. — The Mandata Poultry Co. here recently completed a new room for the storage of iced eviscerated chickens.

When Joseph Katz, general manager of the firm, was making plans to build the new 72 by 30 by 8-ft. storage room, he wanted to install refrigeration equipment that would minimize the loss of weight of the stored chickens and eliminate the necessity of re-icing the chickens prior to shipment.

He felt that the loss of weight was lost profit. And, the work of re-icing required a great deal of time and labor.

Carl Goodling, Sunbury, Pa. refrigeration contractor, recommended the room be designed for operation at 30° F. This is the temperature recommended by the U. S. Dept. of Agriculture for the storage of fresh chickens in order to minimize shrinkage, loss of weight, and spoilage. At 30°, the problem of ice melting is eliminated.

Goodling specified Kramer Trenton Co.'s "F" "Thermobank" system for this room. The F Thermobank is an automatic re-evaporative hot gas defrost refrigeration system designed specifically for the refrigeration of fresh food at the 30° level.

The storage room is designed to hold 100,000 lbs. of eviscerated chickens packed in ice. Katz stated that 32,000 chickens are processed each day. They are packed in ice and put in the storage room. There are usually approximately 100,000 lbs. of chickens which are stored over night or over the weekends prior to shipment the next morniing.

With the F Thermobank equipment, consisting of four Kramer model CM480 "Coolmaster" unit coolers, operating with a 10-hp. compressor, Katz reports that he is able to store chickens over the entire weekend without any of the ice melting. Weight loss in the chickens has been eliminated, he said.

The Thermobank re-evaporator is mounted on the wall of the machinery room above the compressor. The refrigeration equipment was sold through Resco, Inc., of Harrisbury, Pa.

12-Page Book Tells Who Can Get Into Dairy Exposition

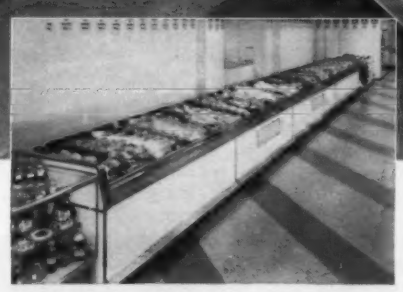
WASHINGTON, D. C.—A 12-page booklet designed to assist prospective visitors to the 21st Dairy Industries Exposition in determining their eligibility for admission now is available free of charge from the exposition's sponsor, Dairy Industries Supply Association, 1145 19th St., N.W., Washington 6, D. C.

More than 25,000 are expected to attend the "Big Show" of dairy equipment and supplies Dec. 8-13 on Navy Pier, Chicago.

The booklet, "Who Is Entitled To Admission to the Dairy Industries Exposition," stresses that, although the public is not admitted, everyone associated with the dairy industries is entitled to admission—"in 99% of the cases free admission."

C&E SUPER VALU goes all the way with McCRAY

Big capacity fresh and frozen meat cases.



Low level, most accessible produce cases.

C&E Super Valu Market
Galesburg, Illinois

"Class"and"Elm"Augustson go after high volume sales with 230′ of *extra capacity* McCray merchandisers.With McCray, they get more cubic foot *capacity* per lineal foot . . . plus easy to see, easy to reach, big area display and design that complements modern markets. That's why McCray merchandisers, including McCray exclusive self-contained wall-type ice cream cases, were selected. These huge *capacity* merchandisers are backed up with four walk-in coolers and a bakery freezer. Why not get the full details on how McCray can build profits for you? Send coupon below. If your territory is open, we'll supply franchise information.

Huge capacity volume frozen food merchandisers.

High volume, better display dairy cases.

66 Years of Leadership in Building Dependable Commercial Refrigerators

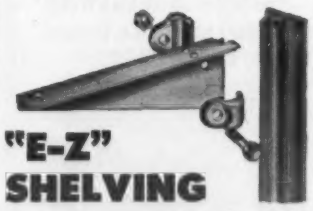
McCray KOLDFLO

McCRAY REFRIGERATOR CO., INC.
701 McCray Court, Kendallville, Indiana
I'm interested in the new profit-making McCray line. Please let me know if there's a franchise available in my area.
NAME_____
BUSINESS_____
ADDRESS_____
CITY_____ STATE_____

DESIGNED TO SELL MORE . . . ENGINEERED TO SAVE MORE

WILL SHELVING HELP YOUR SALES?

"Get the E-Z Story"



"E-Z" SHELVING
GIVES PIN-POINT ADJUSTABILITY

"E-Z" BRACKETS & STANDARDS *Provides These Advantages*

(1) Helps solve Uneven Floor Problem. Upper Shelves Adjust Level without shimming.
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(4) Readily Adapted to Precision Tailored Fixtures.

NO KEYHOLES OR SLOTS
Brackets slide up and down in Standard groove and lock at any point on Standard.

HANDLES ALL NORMAL DISPLAY LOADS

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NCRSA Planning 'Round Table' Conferences At Nov. 16-19 Convention In Miami Beach

PHILADELPHIA — Round table conferences of delegates will work actively on the solutions to problems encountered daily in servicing, installing, training salesmen, and store planning at the convention of the National Commercial Refrigerator Sales Association.

The convention is scheduled for Nov. 16-19 at the Golden Gate hotel in Miami Beach, Fla.

Round table conferences are new for NCRSA. They will be 100% audience participation, according to Marie Lawton, executive secretary.

Each delegate will have an opportunity to choose in advance which of four available topics he wants to discuss with others in his conference group. A panel composed of the chairmen of each conference group will report at the end of the session on conclusions reached. A question and answer period will follow.

Theme of the convention is "Selling Profitably Today." It will be expanded in three business sessions including panel discussions as well as the round table conferences.

4 New Members Announced by NCRSA

PHILADELPHIA — Three new active members and one associate member have been admitted to the National Commercial Refrigerator Sales Association, reports Marie Lawton, executive secretary.

Active members are Graham Contractors, Inc., Hussmann distributor in Long Island City, N. Y.; Lerza Refrigeration Co., McCray distributor in Redwood City, Calif.; and Metrick Market Equipment, Friedrich distributor in Long Beach, Calif.

New associate member is Fogarty Mfg. Co., manufacturer of store fixtures in Dayton, Ohio.

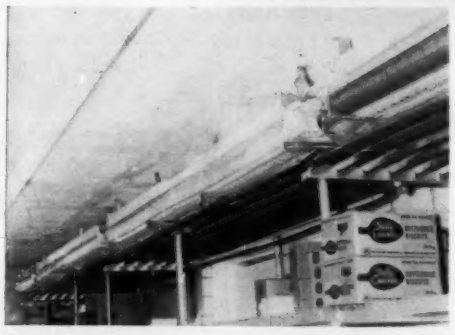
For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Only 25¢ each.

BEFORE: "Curtain of air" dairy case at King Sooper market in Denver was losing too much cold air into store thereby endangering the products stored in the novel type of display. Engineers, it seems, had not considered the air movement caused by the store's air conditioning system.

AFTER: Lacking the time to work out the engineering problems to make the "curtain of air" system work, the management decided to enclose the case with glass doors and work out the problems later. Curtain type refrigerated cases are definitely planned for future stores, according to the management.



FOUR fin-type coils which refrigerated the walk-in dairy case with the air curtain.

'Falling Curtain of Air--'

(Concluded from Page 1)

partment which purchased all of the necessary refrigeration equipment and fixtures and hired a local contractor to make the installation.

Included were four fin-type coils with four tons refrigeration capacity, built along the rear wall of the 40 by 8-ft. walk-in refrigerator, which is the back wall of the dairy case.

Operating technique called for cold air from the cooling area in the walk-in box to "spill" down over the shelving, at the front of the walk-in cooler, on the shopping aisle side.

As the air became warm, it was expected to rise again, to be re-chilled by the overhead coils. Then it would sink down the open front again, forming the "curtain of cold air" and retaining sufficient low temperatures across the front of the box to keep all produce items at the proper temperature.

In planning however, no consideration was given to the motion of air through the store propelled by the store's air conditioning system. It was found that without baffles to keep the cold air falling within the fixture that air would "fall out" onto the market floor. Here it was absorbed by higher-temperature air.

Tests showed that the "fall out" was of such a high rate that the cooling equipment wasn't able to maintain low enough temperatures to protect dairy products.

In fact, there were definite "warm spots" across the curtain of cold air, and far too much danger of spoilage.

After some experimentation, including a study of baffles, the King Sooper's management decided that there was not sufficient time available to "research" the refrigeration problems involved. Another new store, even larger than this one was currently under construction, requiring full time of all personnel.

"It might have been possible to develop baffles to produce exactly the results we wanted, over a long period of time," the head of the engineering department indicated. "However, we do feel that the time involved was economically worthwhile."

As a result, King Soopers invested in 18 heavy plate glass doors, trimmed in stainless steel, which were installed over the open area. A wooden superstructure, finished in yellow to match the walls, enclosed the door area.

"Curtain" type refrigerated display cases are definitely planned, however, for subsequent King Sooper stores, it was reported.

Teamwork Makes Bigger Profits For COLDIN DEALERS

Coldin works with you . . . helps you sell . . . offers you merchandising and promotion aids and paves the way for sure, easy profits.

Coldin Your Key To Better Refrigeration

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Your Customers' Best Buy. . .

(and yours, too!)

IDEAL Speed-Freeze PRODUCTS

BEVERAGE COOLERS unexcelled storage capacity with Ice Cube Makers

OUTSTANDING SECTIONAL METAL WALK-IN COOLERS

IDEAL COOLER CORPORATION

2830 MAGAZINE ST. ST. LOUIS 6, MO.

the perfect "set-up" for more draft sales

Beverage-Air

DIRECT DRAW COOLERS

Model DD 62-S

Model DD 62-S

● New — Refrigerated "Utility" Compartment

● New — Compact, Functional Designs for Bigger Capacity

● New—Trouble Free System Eliminates Costly Service

Here are coolers that are boosting draft sales right across the country. Big, roomy Beverage-Air Coolers that hold up to 3 kegs on tap, 1 on storage and 3 to 4 cases in "Utility Compartment." They offer the best balanced cooling system available—assure low cost cooling from keg to faucet valve. All models with stainless steel tops and stainless or baked enamel sides and ends.

Write for complete catalogue data—FREE. Ask about Beverage-Air Ice Maker Coolers

BEVERAGE-AIR

705 Third Street Punxsutawney, Penna.

FACTORIES: Punxsutawney, Pa., Spartanburg, S. C. WAREHOUSES: Pittsburgh, Pa.; Trenton, N. J., Memphis, Tenn.

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A FAMOUS NAME IN COMMERCIAL REFRIGERATION FOR OVER 50 YEARS!

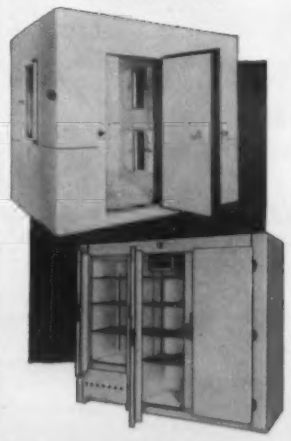
As a pioneer designer and builder of commercial refrigerators, with more than 50 years of experience, Gloekler offers these important advantages:

1. Your customers get the finest construction materials and design plus the all-important benefits the industry's most advanced skills and facilities can offer.

2. Too, as a Gloekler dealer you are protected on every transaction in your area, and get conscientious factory cooperation in maintaining good customer relations.

WALK-IN & REACH-IN

Standard and Custom Designs for Every Need!



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Gloekler

P.O. Box 1154-AC ERIE, PA.

Plant Vacation Schedule

Final Listing

Company	Shutdown Period Plant	Office	Shipments From Plant
A.R.A. Mfg. Co.	8/25-8/31	8/25-8/31	None
Baltimore Aircoil Co., Inc.	8/18-8/29		Stock Only
Bohn Aluminum & Brass Corp.			
Adrian Plant	8/2 -8/17		None
Danville (Betz Div.)	8/16-9/1	8/16-9/1	Stock Only
Holland Plant	8/16-9/1		None
Brewer-Titchener Corp.	8/18-8/30	8/18-8/30	Regular
Cobell Industries, Inc.	8/18-8/31	Open	Emergency
Coolerator Mfg. Div., McGraw-Edison Co.	8/18-8/30	Open	Stock Only
Dunham-Bush, Inc.,			
Gainesville Plant (Brunner)	8/17-8/23		Emergency
Heat-X Plant	8/18-9/2	8/18-9/2	Emergency
Riverside Plant	8/25-8/31		Emergency
Ebco Mfg. Co.	8/15-9/2	8/15-9/2	Stock Only
Frigidaire Div., General Motors Corp.	8/25-8/31	Open	Regular
Havens Cooling Towers	8/15-9/2		Stock Only
Heat Controller, Inc.	8/25-8/29	8/25-8/29	Emergency
Kramer Trenton Co.	8/18-9/1	8/18-9/1	Emergency
La Crosse Cooler Co.	8/17-9/2	8/17-9/2	Stock Only
Larkin Coils, Inc.	8/23-9/1	Open	Emergency
Lehigh Mfg. Co., Div. of Lehigh, Inc.	8/22-9/2	8/22-9/2	Stock Only
National-U. S. Radiator Corp., Greenville, Ill.	8/16-9/1	Open	Stock Only
Refrigeration Appliances, Inc.	8/18-9/2	8/18-9/2	Stock Only
Remington Corp.	8/16-9/1	8/16-9/1	Emergency
C. Schmidt Co.	8/18-9/1	8/18-9/1	Stock Only
Tecumseh Products Co.	8/1 -8/18	Open	None
United States Air Conditioning Corp.	8/22-9/1	8/22-9/1	Emergency
Victor Products Corp.	8/17-9/1	Open	Stock Only
Viking Copper Tube Co.	8/18-9/1	Open	Stock Only
York Corp.	8/25-8/31	Open	Regular

Refrigeration Problems And Their Solution

(As Written by Paul Reed)

Electric Solenoid Valves (4)

A solenoid valve should be selected with a good deal of care. There is too much tendency to simply select a solenoid valve on the basis of the inlet and outlet line connections, and the voltage and frequency of the electric current. There are several factors, that, if ignored, can cause a lot of trouble.

It is difficult to say what factor, other than refrigerant line size and current characteristics, is the most important, for the various factors are inter-related and affect one another; but certainly the orifice diameter is very important, for it affects the capacity of the valve and its performance characteristics.

Other things being equal, the size of the orifice determines the pressure-drop across the valve: the larger the orifice, the smaller the pressure-drop, and vice versa. So we must decide how much pressure-drop we can stand, before selecting the orifice.

For a liquid line solenoid valve, we can normally allow a pressure-drop of 2 p.s.i., and select a solenoid valve, that, at the pressures that exist in the line, will give the required capacity and other performance with a pressure-drop of not more than 2 p.s.i.

When selecting a solenoid valve, if we allow a larger pressure-drop across the valve, say 3 p.s.i., the same orifice will pass more liquid or gas, and therefore the valve will have a greater capacity.

If we are unwilling to allow as much as 2 p.s.i. across the valve, the orifice must be larger in order to give the required capacity with the lower pressure-drop.

For purposes of determining the capacities of liquid line solenoid valves, it is common practice to assume a pressure-drop of 2 p.s.i. across the valve. If in the liquid line in which this valve is to be used, we allow a maximum total pressure-drop of 5 p.s.i., this leaves only 3 p.s.i. for the remaining pressure-drop through the liquid line itself and its fittings, and through the drier, strainer, sightglass, and other devices that are commonly found in liquid lines. Then, too, there is usually some pressure-drop due to "static head" in vertical liquid lines.

In most instances it will be found difficult to hold pressure-drop in the liquid line, other than across the solenoid valve, to 3 p.s.i. So a 2-lb. pressure-drop across a liquid line solenoid valve is not only the commonly accepted standard, but it is also just about the maximum.

Pressure-drop in the liquid line, without liquid sub-cooling, causes the liquid to boil and vaporize, this creating "flash gas," which reduces the capacity of the expansion valve and affects its ability to maintain a constant and narrow enough superheat. Flash gas may cause actual physical damage to the expansion valve from wire-drawing and chattering of the internal parts.

PRESSURE-DROP ACROSS SOLENOID VALVES IN THE SUCTION LINE

How much pressure-drop can we allow across a solenoid valve in the suction line? That is, on what pressure-drop must we select the orifice size of suction line solenoids, bearing in mind that the size of the orifice and the pressure-drop on which it is based, determines the capacity of the solenoid valve?

Pressure-drop through the evaporator affects the operation of the expansion valve, causing the expansion valve to tend to "hunt" and to maintain a wider superheat and thus starve the evaporator.

Pressure-drop through the evaporator and through the suction line, reduces the capacity and efficiency of the compressor. Therefore, it is highly desirable to maintain a low-pressure drop from the inlet of the evaporator to the suction service valve on the compressor.

In practice, we must be prepared to accept some pressure-drop through the low-pressure side of the system. The lower the evaporator temperature, and consequently the lower the corresponding evaporator pressure, the less the pressure-drop through the evaporator and suction line that we can accept.

For evaporator temperatures above 25°, the total low side pressure-drop should not exceed 2½ to perhaps in rare instances 3 p.s.i. For evaporator temperatures from 25° down to 0°, we can permit a total low side pressure-drop up to 1½ and in some instances 2 p.s.i.

For evaporator pressures below 0°, the total low side pressure-drop should be held to 1 p.s.i.; and for ultra-low temperatures, -40° and below, every effort must be made to eliminate low side pressure-drop in so far as possible.

Manufacturers of evaporators may consider the above limits too severe, but manufacturers of condensing units and expansion valves will agree with these maximum permissible pressure-drops.

The maximum permissible pressure-drop will have a direct bearing on the permissible pressure-drop across the solenoid valve to be used in that particular application. If the total permissible pressure-drop is to be 2 p.s.i., certainly no more than one-half of that, or 1 p.s.i., can be allowed to the solenoid valve or other device in the suction line.

(To Be Continued)

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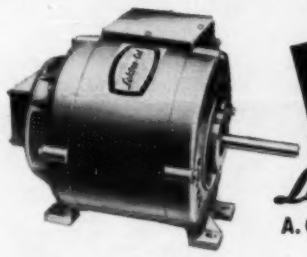

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Careful Engineering and Good Merchandising Sell Residential Systems for Alabama Firm

MONTGOMERY, Ala.—Doing a complete "wrap-up" job of merchandising residential air conditioning paid off to the tune of some 75 installations during 1957 for Capital Refrigeration Co. here.

James Drum, head of the firm, is both a qualified air conditioning engineer and an exceedingly able salesman. In the latter guise, he feels that residential air conditioning, while well-accepted still has to be "sold"—and he has built up an emphatically successful sales program which makes the most of merchandising "gimmicks."

First, Drum believes in having "something to show the prospect."

He sees to it that every home cooling project which Capital carries out is thoroughly documented with photographs, including "before and after" where possible, and at least a good clear 8 by 10-in. photograph of the finished job in every case.

Salesmen Use Photos Of Previous Jobs

Each of three salesmen on the staff carries a thick ring binder crammed with photographs which illustrate a previous Capital job, and which can quite frequently make the difference between a hazy concept in the prospect's mind and a clear idea of what the contractor can do.

"Photos are expensive, of course," Drum admits, "but they pay their way. People who have little conception of what goes into an air conditioning system enjoy an edifying experience as they go through photo after photo, mentally relating the installation to their own circumstances, and often selling themselves in the process."

Capitol Refrigeration subscribes to Dodge reports, and faithfully follows through on every lead. More come from York and are all given the benefit of a personal call on the prospect.

'Open Houses' at Sites Of Completed Jobs Yield Live Prospects

Probably the most unusual source of prospects, however, is an "open house" held at the site of each home air conditioning project, as soon as the equipment is in operation.

While no two of these are alike, they are usually the result of suggesting to the homeowner that he invite "a few friends in" with a Capital engineer on hand to take the visitors on tour of the air conditioning system, explain its operation, etc.

Most homeowners, swelled with pride after their central air conditioning system is in place, willingly fall in with this suggestion, and among the guests there are sure to be live-wire prospects.

If necessary, Drum will arrange to serve refreshments "on the company" at such affairs. This has seldom been necessary, however.

In making every installation, the Capital crew attaches an attractive label on visible equipment. This is a blue and silver label, of heavy metallic foil, 3 in. long by 1 in. wide, attractive enough that the homeowner isn't likely to tear it off.

Reading simply, "Installed by Capital Refrigeration Co. . . . Air Conditioning and Refrigeration Distributors-Contractors." the label is a constant advertising asset, and not infrequently brings prospects from people who have visited at a Capital air conditioned home and noticed the label.

"We do the same thing where we have a commercial air conditioning job," Drum said. "In this case, we attach a much larger, oval-shaped silver and blue label to the door which points out that we have air conditioned the shop or store. This will let everyone who enters the store know that we did the job, for as long as the commercial air conditioning user will leave it in place."

Users Called Every 90 Days

Next, Capital employs a regular telephone follow-up system which means that every user of the firm's York air conditioning installations will be called at least once every 90 days for a "chat" if nothing else. Discussing the performance of the air conditioniing plant will usually lead to the homeowner expansively providing leads on other air conditioning prospects from among his circle of friends.

It is seldom that a telephone call fails to turn up at least one or two such leads, according to Drum. The same engineer-salesman who sold the job is responsible for the call backs, which Drum feels is a highly practical way of "keeping the previous customer sold."

Newspapers Are Given Stories of All Jobs

Two forms of public relations have helped Capital Refrigeration to land profitable large-size home air conditioning jobs in new homes up to $50,000 and more. Drum automatically sends full information about the air conditioning of each home into local newspapers, whereupon the item is likely to turn up either in the news pages or at least the society page.

This is particularly likely to happen where the cooling system installed is a particularly big one, running up to 10 tons or 5 tons, instead of the usual 3 or 2-ton job. Almost all such items released to newspapers is printed. Drum, incidentally, carries a weekly display ad the year around on York home air conditioning.

In the commercial market, Drum has developed his most unusual stunt. This is to run an ad, as soon as a store or shop air conditioning job has been done. It closely duplicates the appearance of the store's own newspaper ads. But on closer inspection, it turns out to be simply an announcement that its customers may shop in comfort because Capital Refrigeration has recently completed air conditioning the store.

CAREFUL engineering and installation are employed by Capital Refrigeration when adding cooling in existing homes to preserve decor as with this outlet above door in Montgomery, Ala. home.

These unique ads, which are always run with the same size, format and distinguishing characteristics of the customer's own ads, get sensational results. For one thing, the Capital name is branded permanently into the storekeeper's mind so that he is bound to mention it whenever the subject of air conditioning comes up.

Recognizing the fact that it will be impossible for Capital salesmen to call on every new home purchaser in the area, Drum has developed highly effective direct mail, which goes out to anyone purchasing a new home, or an older home, anywhere in the Montgomery area.

ANOTHER example of Capital's ingenuity is this furred down duct system.

EXTENSIVE use of photographs like these helps Capital Refrigeration sell air conditioning to all types of Montgomery homes.

The letter is simply a thumbnail history of the Capital concern, and its products, lists the services which it offers, with emphasis on air conditioning, and invites the homeowner to check with Capital as to the advantages of home air conditioning.

Anywhere from two or three up to two dozen such letters may be mailed daily from Drum's suburban Montgomery address. They consistently create prospects.

"The important thing is to keep our name before the public," Drum said. "There is no such thing as a typical residential air conditioning prospect any more.

"Almost anyone in any home of any size is giving a lot of thought to it these days."

The picture file, with its scores of photographs, is constantly useful in selling the owners of older, expensive homes who fear that an air conditioning system will "ruin the looks."

Drum uses pictures to show how transoms over doors in older homes have been converted into plenums, how flat, broad ductwork, feeding from a transome along a wall, with outlet louvers above the doors, has been covered with the same wallpaper used on the walls, to "disappear" from a visual standpoint, etc.

Other photos show methods of installing package units of all sizes in limited space, in utility rooms, basements, outdoor installations, effective means of installing cooling towers, concealing them, and similar points.

"We make a lot of noise about our record achievements," Drum said. "It is a thoroughly expensive program, but one which we feel is more than worthwhile in terms of the big increases in home air conditioning which we have experienced."

Quick Industry Action Squelches Room Unit Scare--

(Concluded from Page 1, Col. 3)

er, opened all the windows, and turned on an attic fan. With the help of a neighbor, he got the members of the family, all women, out of the house. When police arrived, they administered oxygen, and Mrs. Young went to the hospital, but was released the same day.

The news story reported that the odor of gas was "heaviest" around the air conditioner.

Air conditioning dealers in the area, alarmed by the possible repercussions, immediately took steps to counteract the unfavorable publicity. First, they made an inspection of the unit, a Sears Roebuck model, and determined that it was in good working order and not leaking.

Then they set about to obtain some expert opinion on whether refrigerant gas leaking from a room unit could asphyxiate humans sleeping in a room where the unit was operating.

One of their first moves was to contact AIR CONDITIONING & REFRIGERATION NEWS. The NEWS supplied them with some ammunition, and recommended other experts from whom they could get authoritative opinions.

Net result was that the Lake Charles *American Press* the following Sunday published a story under a 3-column headline on page 1 stating "Gas in Air Conditioning Units Won't Asphyxiate, Experts Say." And the story began:

"If you've been worried this past week about whether your window air conditioning unit might asphyxiate you—don't.

"It can't.

"As a matter of fact, if there should be a gas leak in your home from some other source, your air conditioner probably would be instrumental in saving your life—rather than contributing to any possible asphyxiation—due to the amount of outside air it would be circulating in the house. . . ."

The local newspaper then went on to quote the various national authorities quoted on the matter, typical of these being the following:

"Most authoritative response came from Dr. Walter O. Walker, Dean of the Division of Industrial Research at the University of Miami. His telegraphed reply to a query said:

"'Neither "Freon-12" nor "Freon-22" are toxic. This information based on report by Underwriters Laboratories. A window air conditioner would contain too little refrigerant to reduce the oxygen content of the air below allowable limit, even if all the refrigerant escaped within a few seconds.'"

The story continued, "so went the telephoned, telegraphed, and written replies from chemists, engineers, and experts all over the country. These replies confirmed the opinion of local authorities who had said that the gas in the Young home had to have come from some other source than the air conditioner. However, the local men had asked that the opinion of nationally-known experts be checked on the question."

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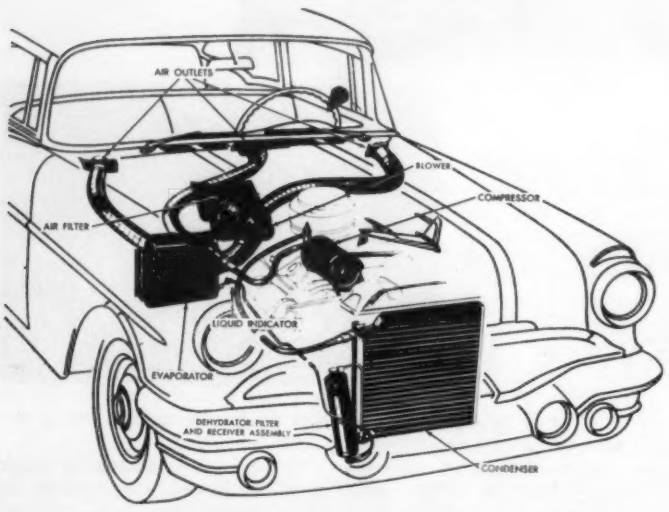

FIG. 1—Major components of front-end 1956 Pontiac air conditioner.

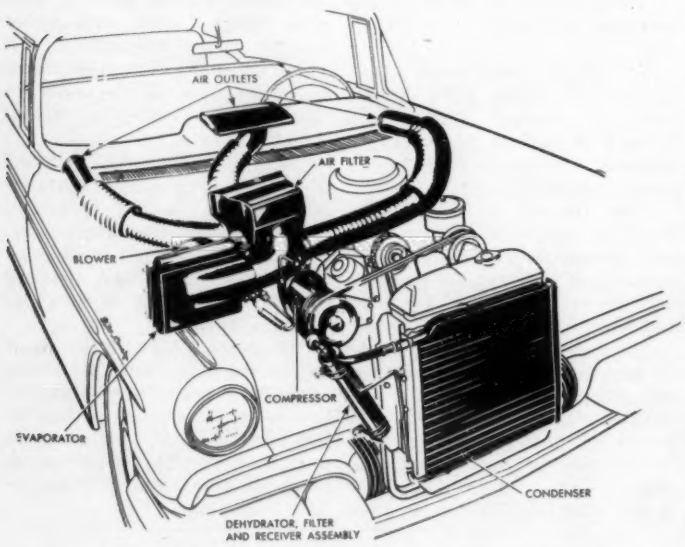

FIG. 2—System employed on 1957 Pontiac is similar to 1956 model.

PONTIAC (1)

Pontiac Motor Div.
General Motors Corp.
Pontiac 11, Mich.

A front-end type air conditioning system is offered by Pontiac as an optional accessory on its 1956 (Fig. 1) and 1957 (Fig. 2) cars.

Compressor mounts on the car engine and is driven through a magnetic clutch. Condenser is located in front of the car radiator. Evaporator is mounted on the fire wall in the engine compartment. Conditioned air is delivered to the passenger compartment through flexible hoses leading to three outlets in the car instrument panel (Fig. 3).

Main temperature control is an adjustable thermostat which cycles the magnetic clutch and thus the compressor. Some degree of temperature control is also achieved on 1956 systems by varying the proportion of outside air to recirculated air. The 1957 system, however, operates on 100% outside air.

Refrigerant-12 is used by Pontiac. Charge is 5 lbs. in 1956 systems; 4¼ to 4½ lbs. in 1957 systems.

Compressor

Frigidaire's 5-cylinder axial type reciprocating compressor fitted with a magnetic clutch is employed on the 1956-57 Pontiac systems.

Service valves are located on the back of the compressor, the discharge service valve being above the suction service valve.

This compressor has an oil test fitting. Oil level can be checked by operating air conditioner for five minutes with car engine at 1,200 r.p.m. Turn off engine and then crack the test fitting. Oil will appear regardless of oil level. Close the fitting and then crack it again. If oil level flows out the second time, oil level is okay.

Oil used in this compressor is Frigidaire 525 viscosity oil.

Condenser

Condenser is located in front of the car radiator. Inlet is at top right (curb) side; outlet at lower right side.

A combination receiver and drier unit is located on the right side of the condenser.

Sight glass is provided in the liquid line close to the expansion valve at the evaporator.

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Only 40¢ each.

For your copy, clip this ad and mail with name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Evaporator

Evaporator assembly of the 1956-'57 Pontiac air conditioner is mounted on the engine compartment side of the dash panel at the right. It houses the evaporator coil and the thermostatic expansion valve.

Thermostatic expansion valve on 1956 systems has provision for field adjustment of the superheat setting. No such adjustment can be made on the expansion valve employed on 1957 Pontiac units.

On 1956 systems, a two-speed blower is mounted on an air distributor housing attached to the dash panel in the engine compartment. A two-speed blower is also used on 1957 systems, but the 1957 blower is mounted on the passenger compartment side of the fire wall beneath the instrument panel.

Air distribution system on 1956 Pontiac units provides for 100% outside air, or varying proportions of outside air and recirculated air to be drawn through the evaporator housing and delivered through ducts to three air outlets on the instrument panel.

The 1957 system uses 100% outside air only.

There is an air outlet at each end of the instrument panel and one in the center (Fig. 3). Center air outlet is part of the air conditioner control panel. All three outlets are adjustable to control air direction. Center outlet can also be closed completely.

Controls

Control panel (Figs. 4 and 5) of 1956-57 Pontiac systems is mounted on the car instrument panel. It consists of a toggle switch providing two-speed control of the blower and a lever moving in a horizontal slot that controls (1) electrical circuits to blower and magnetic clutch, (2) setting of thermostat controlling the magnetic clutch operation, and (3) positioning of outside and recirculated air (1956 only) damper.

Figs. 6 and 7 show back views of the 1956 and 1957 control panels, respectively.

When the control lever is in extreme left "Off" position, there is no cooling. To obtain cooling the lever is moved toward the right. (All heater controls must be off and air vents closed to obtain maximum cooling effect.)

Moving the control lever to the right from "Off" to "Vent" opens the outside air intake door and energizes the circuit to the blower switch. The blower operates and uncooled outside air is admitted through the air outlets in the instrument panel.

On the 1956 control panel (Fig. 4), moving the control lever slightly to the right of "Vent" to "On" energizes the magnetic clutch circuit. Movement of the lever farther to the right lowers the setting of the thermostat (Fig. 8) controlling the clutch and thus more cooling is obtained. When the lever is positioned under "Outside," maximum cooling of 100% outside air is obtained.

Moving the lever still farther to the right towards "Inside" swings the air damper to allow recirculated air as well as outside air to enter the evaporator. At extreme right under "Inside," maximum cooling is obtained with the air valve or damper positioned to admit the maximum amount of recirculated air and a limited quantity of outside air.

On the 1957 control panel (Fig. 5) moving the control lever to the right from "Vent" towards "Cooler" energizes the magnetic clutch circuit. Movement of this lever farther to the right lowers the setting of the thermostat (Fig. 9) controlling clutch operation. Maximum cooling is obtained with this lever at extreme right. The 1957 system, as stated, operates on 100% outside air at all times.

Two flexible control cables connect the control lever in the panel to (1) air damper, and (2) thermostat controlling clutch operation.

The control panel (Fig. 7) assembly also includes the blower switch and a switch to energize the blower and clutch circuits.

(To Be Continued)

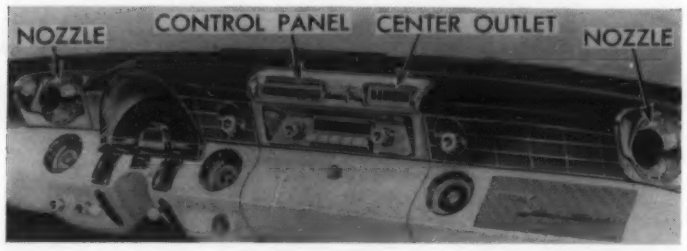


FIG. 3—Air is delivered to passenger compartment through three outlets on instrument panel in both 1956 Pontiac system shown here and 1957 model.

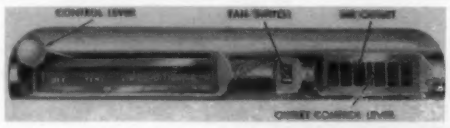


FIG. 4—Control panel of 1956 Pontiac air conditioner.

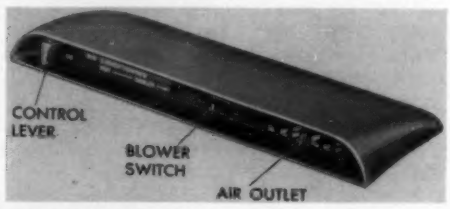


FIG. 5—Control panel of 1957 Pontiac air conditioner.

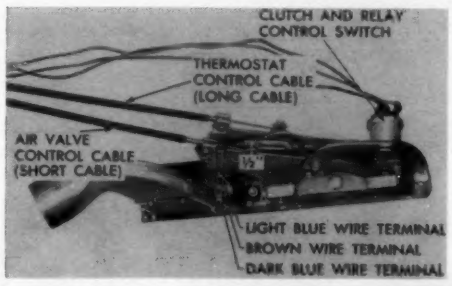

CLUTCH AND RELAY CONTROL SWITCH
THERMOSTAT CONTROL CABLE (LONG CABLE)
AIR VALVE CONTROL CABLE (SHORT CABLE)
LIGHT BLUE WIRE TERMINAL
BROWN WIRE TERMINAL
DARK BLUE WIRE TERMINAL

FIG. 6—Rear view of control panel used on 1956 Pontiac system.

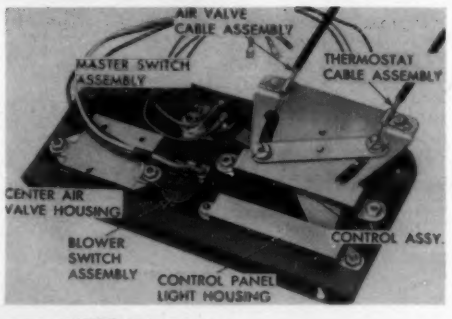


FIG. 7—Top view of control panel on 1957 Pontiac conditioner.

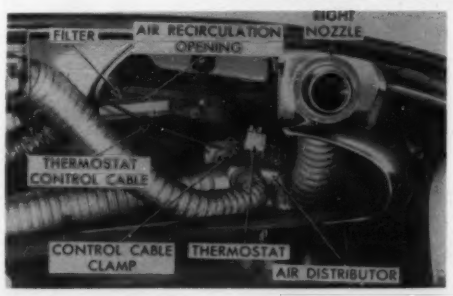


FIG. 8 shows location of thermostat on 1956 Pontiac unit.

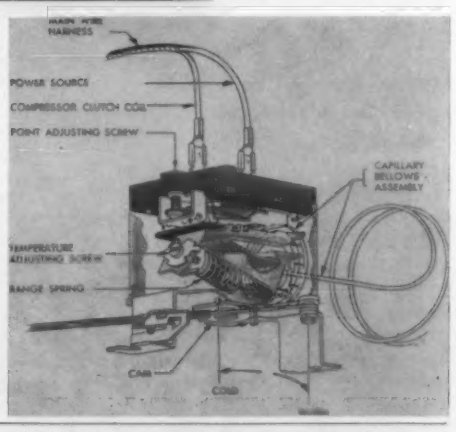
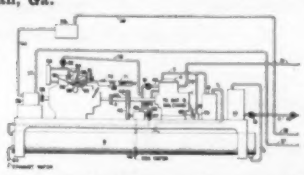


FIG. 9—Thermostat of 1957 Pontiac system has two adjustments: temperature range and opening of contacts.

PATENTS

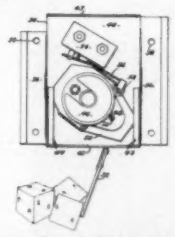
Week of May 27

2,836,037. REFRIGERATION SYSTEM. Walter H. Carpenter and Walter L. Mingledorff, Jr., Savannah, Ga., assignors to Mingledorff's, Inc., Savannah, Ga.



1. A refrigeration system comprising a refrigerant compressor, a motor driving said compressor, a condenser connected to the output side of the compressor for cooling and condensing the compressed refrigerant, a single pump operated by said motor connected to and supplying cooling water to both said compressor and said condenser. . . .

2,836,038. ICE MAKING APPARATUS. Robert Dayton Morgan, Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y.

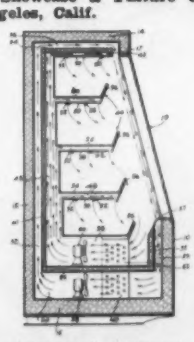


1. In an ice making machine, the combination of means for forming ice, means for harvesting the formed ice, a storage bin placed below the ice forming means for receiving and collecting the harvested ice, and means responsive to the collection of a predetermined supply of ice in the storage bin for discontinuing operation of the machine. . . .

Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented

Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Address orders to: Commissioner of Patents, Washington 25, D.C.

2,836,039. REFRIGERATED SELF-SERVICE SHOWCASE. Karl A. Weber, Los Angeles, Calif., assignor to Weber Showcase & Fixture Co., Inc., Los Angeles, Calif.

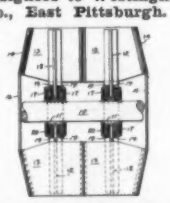


1. A refrigerated showcase comprising a housing having an access opening, a plurality of open display bins positioned one above the other in said housing, means forming air passages on three sides of said display bins, air moving means circulating air through said passages directing air flow in a curtain across said access opening. . . .

2,836,347. DIFFUSER. John C. Barr, Ascot, and James Hodge, Farnborough, England, assignors to Power Jets (Research & Development) Limited, London, England, a British company.

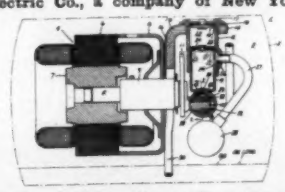
1. A vaneless walled diffuser at the exit from an elastic-fluid flow centrifugal compressor in which the diffuser walls define a passage having an equivalent cone angle over any small element of the whole length of the passage divergent to no greater extent than 12° in the median direction of flow, said equivalent cone angle being considered. . . .

2,836,348. CENTRIFUGAL FAN WHEELS. John E. McDonald, Newton, Mass., assignors to Westinghouse Electric Corp., East Pittsburgh.



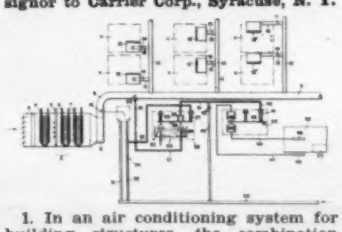
1. In a centrifugal fan having a rotary shaft, a hub secured to said shaft, a blade supporting member attached to said hub, and blades attached to said supporting member, the combination of a pair of sheet metal casings around said hub on opposite sides of said supporting member. . . .

2,836,349. COMPRESSION ARRANGEMENT. Owen H. Scheldorf, North East, Pa., assignor to General Electric Co., a company of New York.



1. In a refrigerating unit, a gas containing case, a compressor disposed in said case for operating therein, said compressor comprising a cylinder, a hollow piston for cooperating with said cylinder to provide a compression chamber. . . .

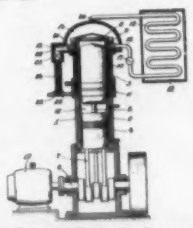
2,836,364. AIR CONDITIONING SYSTEM INCLUDING COMPENSATING MECHANISM FOR THE EFFECTS OF SOLAR RADIATION. Carlyle Martin Ashley, Fayetteville, N. Y., assignor to Carrier Corp., Syracuse, N. Y.



1. In an air conditioning system for building structures, the combination of a central station for treating air for supply areas to be conditioned, units in at least some of the areas being conditioned to supply conditioned air to the areas, ductwork connecting the central station and the units, means to supply treated air to the units through the ductwork. . . .

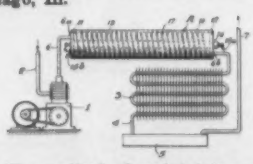
Week of June 3

2,836,964. REFRIGERATING DEVICE COMPRISING A GAS-REFRIGERATOR. Klaas Boezendaal and Evert Hellingman, Eindhoven, Netherlands, assignors, by mesne assignments, to North American Philips Co., Inc., New York, N. Y.



1. A refrigerating device comprising a cold gas refrigerator; a pipe system including an evaporator; a refrigerated space; and auxiliary medium circulating in said pipe system, said evaporator and part of said cold gas refrigeration; said medium being condensed in said cold gas refrigerator and supplied to said refrigerated space. . . .

2,836,965. HEAT EXCHANGERS FOR VAPORIZING LIQUID REFRIGERANT. Herman W. Kleist, Hollywood, Ill., assignor to Dole Refrigerating Co., Chicago, Ill.



1. The method of maintaining predetermined gas pressure in a refrigerating circuit, which includes sensing ambient temperature, and heating the refrigerant, as it passes from compressor to condenser, in controlled relation to variations of such ambient temperature.

(To Be Continued)

Stratos Develops Lightweight Air Conditioner For Guided Missile Ground Support Systems

BAY SHORE, L. I., N. Y.—A new, lightweight, 4½-ton capacity, vapor cycle air conditioning package for missile ground support systems—featuring a 6-in. compressor—has been developed for the U. S. Army Corps of Engineers by Stratos Div. of Fairchild Engine & Airplane Corp.

Utilizing the small, rotary, positive-displacement compressor, which weighs 10½ lbs., and aircraft type aluminum plate and fin construction condenser and evaporator, Stratos "cut the size and weight of its unit to less than half that of comparable ground support air conditioning packages," the announcement claimed.

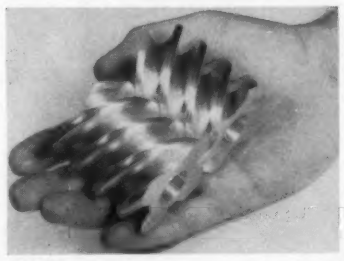
Designated the VEA4-3, the air conditioner weighs 350 lbs., and is 40 in. long, 24 in. wide, and 51 in. high. Stratos recently delivered the first unit to the Army's Research Laboratories at Ft. Belvoir, Va.

The VEA4-3 will supply cooling air to an Army trailer and the electronic equipment used for tracking and controlling various ground-launched guided missiles.

Stratos calls its high-speed (11,700 r.p.m.) compressor the "Heli-Rotor."

"The machine consists of integrated, counter-rotating helical rotors which intermesh without actually touching," it was explained. "Each rotor is only slightly more than 2 in. in diameter and length.

"The compressor on the VEA4-3 is driven by a 400 cycle a.c. motor. Motor and compressor, a hermetic assembly, weigh 32 lbs., compared with 175 to 200 lbs. of weight for an equivalent commercial type."



ABOVE: Small rotors are vital part of lightweight compressor.

RIGHT: Heli-Rotor 4½-ton compressor for Stratos lightweight air conditioner for missile ground support systems weighs only 10½ lbs.

Stratos used the same Heli-Rotor compressor in the air conditioning system which it supplies for the Fairchild F-27 turbo-prop airliner.

For ease of handling and versatility, the VEA4-3 is packaged in two compact, equal size enclosures, each measuring 20 in. by 24 in. by 51 in. They can be easily separated and interconnected through suitable refrigerant and electrical lines for additional applications.

One package contains the compressor, condenser, condenser fan, and high pressure refrigerant controls; the other, the evaporator fan, expansion valve, heaters, electrical controls, temperature controls, and low pressure refrigerant circuitry.

"With condenser inlet conditions of 125° F. d.b. and 85 ° F. w.b., the air conditioner delivers 90 lbs./minute of air against 0.3 in. H_2O back pressure at 67.7° F. d.b. and 63° F. w.b., when evaporator inlet conditions are 90° F. d.b. and 75° F. w.b.," the announcement said. "Motor horsepower is 12.8.

"The unit has an installed heating capacity of 11 kw., or 37,500 B.t.u.h., and supplies automatically controlled temperatures variable from 60° F. to 90° F. It uses Refrigerant 12."

As missiles require 208 or 416-volt, 400-cycle a.c. power, the VEA4-3 is designed to operate with either voltage.

Stratos is also in production on the lightweight GEA 120-1 (Air Force Type MB-1) air cycle ground air conditioner designed for installation on its own trailer or as a component of multi-purpose servicing units, such as the Air Force Type MA-3, manufactured by Beech Aircraft Corp.

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Preference will be given applicants with proven sales-management experience. Please write in full confidence, stating salary requirements, to:

BOX A6063,
AIR CONDITIONING & REFRIGERATION NEWS

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

INSTALLATION AND service manager, field service supervisor and instructor, in air conditioning, refrigeration and heating desires connection with manufacturer, distributor or contractor in either sales or service department. Over twenty-five years' experience in all phases of the industry. Willing to relocate any-where in the South or West. BOX A6071, Air Conditioning & Refrigeration News.

AVAILABLE — GRADUATE engineer with more than thirty years' experience in air conditioning, refrigeration, low temperature work—design, application, and sales. Interested in connection requiring top-notch ability and which appreciates know-how. Reputation excellent in industry. Will relocate. BOX A6073, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

WE NEED three or four district managers to round out our present staff. If you can sell, we will pay you well for your ability. Our business is moving at a pace above the industry average. Experience in selling food chains, super markets or wholesale grocers (shelving, refrigeration, check-outs, etc.) would be advantageous. Now is the time to move up. If you are ready for a change that offers an opportunity equal to effort expended, you'll want to contact us. John S. Twist, vice president of sales, SHERER-GILLETT COMPANY, Marshall, Michigan.

HELP WANTED—A national manufacturer of air conditioning and heating requires district sales manager. Applicant should be well qualified to work with distributors and dealers. Some travel. All replies held in confidence. Reply to BOX A6072, Air Conditioning & Refrigeration News.

EXPERIENCED DESIGN and production engineer needed to take complete engineering responsibility for small, well-rated manufacturer of industrial air conditioning and dehumidifying products. Reply BOX A6074, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

TECUMSEH COMPRESSOR domes, ⅛ and ⅙ h.p., rebuilt, internally spring mounted. Write for shipping instructions and price. Orders are C.O.D. Detroit. BORG REFRIGERATION SERVICE, 196 LaBelle, Highland Park 3, Mich.

MODEL HH 2 h.p. automobile air conditioning compressors tapered shaft, vertical mount, complete with flywheel $33.95. Send for free circulars and catalogs on money saving refrigeration & air conditioning parts and supplies. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

CLOSEOUT-24 CENTRAL residential air conditioners-discontinued model-2 ton (ASRE rating 24,200 BTU) 220 volt-single phase-complete with blower, thermostat, and all copper evaporative condenser. Guaranteed new in original shipping container-orginal dealer cost $669.80-sacrifice $340.00 each or best offer write, wire or phone Z-W DISTRIBUTORS, 4254 W. North Chicago-Everglade 4-0110.

PACKAGED WATER Chillers—1½, 2 and 3 h.p., air-cooled and water-cooled, 1 or 3 phase, O.E.M. prices. Write for specifications and prices, BOX A6065, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

COMMERCIAL REFRIGERATION and air conditioning sales & service established 15 years. Located in mid central Great Lakes town. Owner is tired and wishes to take things easier. Will sell all or part interest to capable sales minded person. All replies will be strictly confidential. BOX A6069, Air Conditioning & Refrigeration News.

Union Summons Bay Area Contractors to Trial--

(Concluded from Page 1, Col. 4)

he told Bay Area he had never seen nor heard of the Feb. 17 letter.

February letters summoning the 12 "independents" to trial were signed by the business manager of local 38, Joseph P. Mazzola. The Feb. 17 reply was directed to him and Bay Area officers are wondering what became of it.

(The Feb. 17 letter was published in the March 10, 1958 issue of AIR CONDITIONING & REFRIGERATION NEWS as part of a news story describing the "state of siege" local 38 had placed against its own members belonging to Bay Area, by picketing them, and listing them as unfair.)

MEN NAMED

Following are the men who were ordered to appear for trial, and the names of their businesses:

John Corbin, Corbin Refrigeration Service.

Stanley W. Jouanne, Dependable Refrigeration of San Francisco.

Larum and Willis, L & W Refrigeration Service.

Gus Lindell, Lindell Refrigeration Co.

Vic Menjou.

John Pierson, Elmer Loyals, and Joe Righetti of San Francisco Refrigeration Co.

Richards, Richards Refrigeration Service.

Maurice Robles, Robles Refrigeration Service.

Les Whiteley, Whiteley Refrigeration Co.

Milo Williamson, Williamson Refrigeration Service.

CHARGES VARIED

There was some variation in the charges preferred.

The letter to Jouanne read in part: "the following charge preferred by Frank McDermott, Business Agent of local union No. 38 was presented to and accepted by a majority of the membership of this local union present and voting at its meeting on Feb. 5, 1958:

"Stanley W. Jouanne, a member of this union, under section 212 of the constitution of the U. A.

"Article 13 of the constitution of this local. All members self-employed and those members contemplating going into business must sign the working agreement with the local union upon the recommendation of the business manager and the approval of the executive board, said member to sign the respective agreement covering that phase of the industry he enters into.

"Said member has refused to sign said agreement."

Charges against Gus Lindell were more elaborate. Lindell is a past president of Bay Area, and his wife, Pauline, is secretary of Bay Area.

Signing himself "fraternally yours," Secretary Dempsey wrote to Lindell as follows:

"I hereby prefer the following charges against Gus Lindell, a member of this local union, under section 212 of the constitution of the United Association.

"First. Article 13 of the constitution of this local." (This is the same article cited against Jouanne.)

"Said member is self-employed and engaged in the refrigeration business. On or about Dec. 26, 1957, at a meeting of this local's executive board, said member was asked by the executive board, upon the recommendation of the Business Manager, to sign the prevailing working agreement in the refrigeration industry.

"Said member on that date and ever since has refused to sign said agreement. Brothers Gus Kalsarsky, W. Jennings, E. Duggan, and F. McDermott were present at said executive board meeting.

"Second. On or about Dec. 30, 1957, said member in violation of his obligations to the United Association and this local union, crossed a picket line established by this local at 153 7th St., and approved by the San Francisco Building Trades Council. Brothers F. McDermott and Les Allen were present and observed the violation.

"Said charges have been referred to the local executive board for trial. Pursuant to section 212 of the constitution of the United Association, you are hereby summoned to appear on July 23rd at 8:30 p.m. for trial of said charges.

"You are entitled to be present at said trial and to present evidence on your behalf. According to the provision of Article XI, section 3, of this local's constitution, you are also entitled to be represented by another member at said trial as your attorney."

What the charges failed to mention were the repeated efforts of Bay Area to be represented at collective bargaining sessions when the "prevailing working agreement in the refrigeration industry" was being formulated, and the refusal of the union to consider any representation from Bay Area at meetings of the Joint Board.

House Passes Bill To Aid Small Business

WASHINGTON, D. C.—A tax relief bill for small businesses that would cost the Treasury an estimated $260 million has been passed by the House of Representatives.

The measure now goes to the Senate where action is expected before Congress adjourns. It is supported by the Administration.

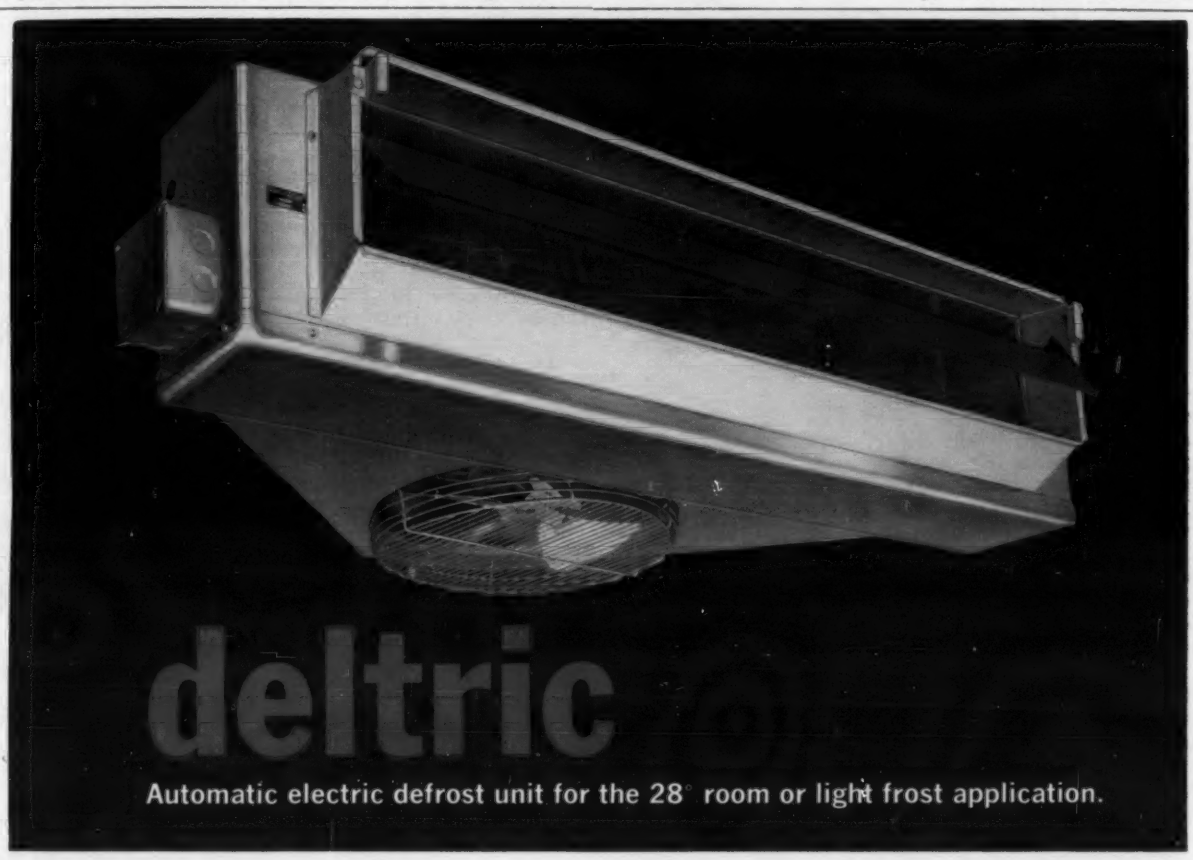
The measure would permit a special 20% first year depreciation deduction on machinery, equipment, and certain other tangible property up to $10,000 (or $20,000 if a joint return is used). Purpose is to encourage expansion of investment in small business.

Other provisions would provide easier estate tax treatment, easier taxation of earnings accumulated by closely held businesses, and more advantageous tax treatment of investments in, and operating losses by, small companies.

Shreveport Firms Agree To Advertise Room Unit Capacities by BTUs

SHREVEPORT, La. — Some 27 wholesalers and retailers of room air conditioners here recently adopted a code whereby they agree to advertise their products by B.t.u., rather than horsepower or tonnage alone.

The code is sponsored by the local Better Business Bureau.



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